SERVICE MANUAL 4822 725 50854

# SD285/SD385

marantz®

model SD285/SD385

*Cassette Tape Deck*

## MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound.
Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

### ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified.
The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

MARANTZ INTERNATIONAL
Vestdijk 9
5600 MD Eindhoven
The Netherlands
Phone: +31/40.758290
Telefax: +31/40.75.82.99
Telex: 35000 PHTC NL routing IND NLMTFAT

### PARTS ORDERING

Parts may be ordered at the following addresses:

**AUSTRIA**
HORNYPHON
Vertriebsgesellschaft GmbH
Wienerbergstrasse 1
A 1101 Wien
Austria
Telex: 132.332

**BELGIUM**
SVD DIVISION MARANTZ
Industrialaan 1
1720 Groot-Bijgaarden
Belgium
Telex: 24466

**CHILE**
MARANTZ
DIVISION OF PHILIPS S.A.
AV. Santa Maria, 0760
Casilla 2687
Santiago
Telex: 240.239

**DENMARK**
MARANTZ
DIVISION OF PHILIPS
SERVICE A/S
Prags Boulevard 80
Postbox 1919
DK-2300 København S
Denmark
Telex: 31201

**FINLAND**
MARANTZ
DIVISION OF OY PHILIPS Ab
Kaivokatu 8
00100 Helsinki
Finland
Telex: 124811

**FRANCE**
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

**GERMANY**
MARANTZ GERMANY GmbH
Alexanderstrasse 1
2000 Hamburg
Germany

**THE NETHERLANDS**
Elpro Marantz
Wint Hontlaan 28
3526 KV Utrecht
The Netherlands
Telex: 4748

**NORWAY**
MARANTZ
DIVISION OF PHILIPS A/S
Sandstuveien 40
0680 Oslo 6
Norway
Telex: 72640

**GREAT BRITAIN**
MARANTZ AUDIO U.K. Ltd
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

**GREECE**
SHERTON ELECTRONICS S.A.
P.O.Box 21025
Hippocratus Street 188
Athens 11471
Greece
Telex: 216.795

**JAPAN**
MARANTZ JAPAN, Inc.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

**KUWAIT**
AL ALAMIAH ELECTRONICS
Ussama Building
Fahd al Saleem Street
P.O.Box 23781
Safat-Kuwait
Telex: 22694

**ITALY**
MARANTZ ITALIANA S.P.A.
Via Chiese, 74
20126 Milano
Italy

**SAUDI ARABIA**
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia
Telex: 401530

**SOUTH AFRICA**
MARANTZ
DIVISION OF PHILIPS S.A.
Main Road Martindale
P.O. Box. 58088
Newville 21114
South Africa

**SPAIN**
PHONO S.A.
Ignacio Iglesias 10
Badalona (Barcelona)
Spain
Telex: 59355

**SWEDEN**
MARANTZ
DIVISION OF PHILIPS
Försäljning AB
Tegeluddsvägen 1
S-115 84 Stockholm
Sweden
Telex: 14060

**SWITZERLAND**
MARANTZ
Technischer Service
Duenstrasse 3
3186 Düdingen
Switzerland

**TURKEY**
DOGRUOL Ltd.
I.M.C.
6 Blok N°6310
Unkapani
Istanbul
Turkey
Telex: 22085

**MALTA**
CACHIA & GALEA
Republic Street, 68D
Valetta
Telex: 1682

**PORTUGAL**
MARANTZ
Divisao philips S.A. service
Outurela-carnaxide
2795 LinDA-A-VELHA
Telex: 43906

**All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.**

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

## TABLE OF CONTENTS

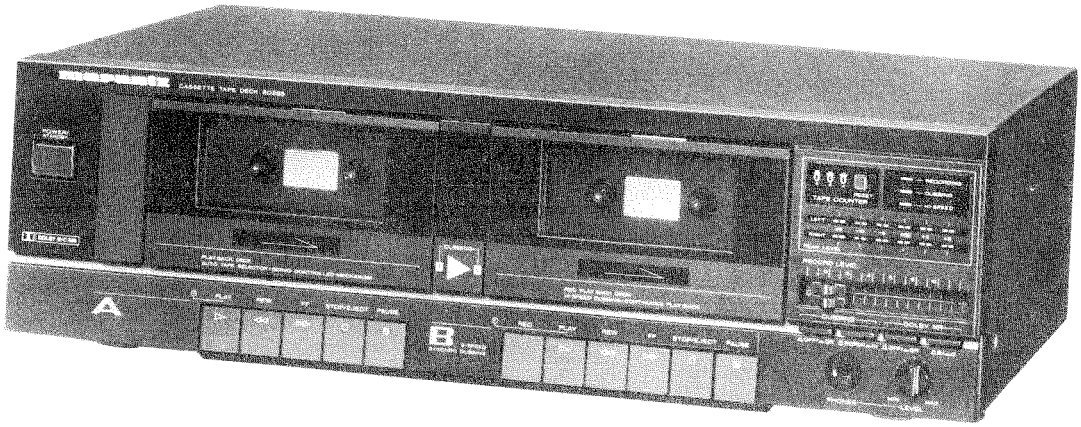

| Section | | Page |
|---|---|---|
| 1. | P.W. BOARDS | 4 |
| 2. | TEST EQUIPMENT REQUIRED FOR SERVICING | 4 |
| 3. | MECHANICAL ADJUSTMENT | 5 |
| | 3.1 Wow and Flutter | 5 |
| | 3.2 Tape Speed | 5 |
| | 3.3 Reel Torque | 5 |
| | 3.4 Driving Torque | 5 |
| 4. | ELECTRICAL ADJUSTMENT AND CHECKS | 6 |
| | 4.1 Adjustments and Test Point Locations | 6 |
| | 4.2 Playback Performance | 6 |
| | 4.3 Monitor Performance | 6 |
| | 4.4 Recording Performance | 7 |
| 5. | DISASSEMBLY | 9 |
| | 5.1 Removing the Top Cover | 9 |
| | 5.2 Removing the Front Panel | 9 |
| | 5.3 Removing the Main P.B. Board | 9 |
| | 5.4 Removing the Mechanism | 9 |
| 6. | BLOCK AND LEVEL DIAGRAM | 10 |
| | 6.1 Block Diagram | 10 |
| | 6.2 Model SD285 Level DIAGRAM | 12 |
| | 6.3 Model SD385 Level DIAGRAM | 13 |
| 7. | WIRING DIAGRAM AND PARTS LOCATION | 14 |
| | 7.1 Model SD285 Wiring Diagram | 14 |
| | 7.2 Model SD285 Parts Location | 16 |
| | 7.3 Model SD385 Wiring Diagram | 18 |
| | 7.4 Model SD385 Parts Location | 20 |
| 8. | MODEL SD385 EXPLODED VIEWS AND PARTS LIST | 22 |
| 9. | MODEL SD385 ELECTRICAL PARTS LIST | 29 |
| 10. | MODEL SD285 EXPLODED VIEWS AND PARTS LIST | 31 |
| 11. | MODEL SD285 ELECTRICAL PARTS LIST | 37 |
| 12. | TECHNICAL SPECIFICATIONS | 39 |


### How to use this service manual

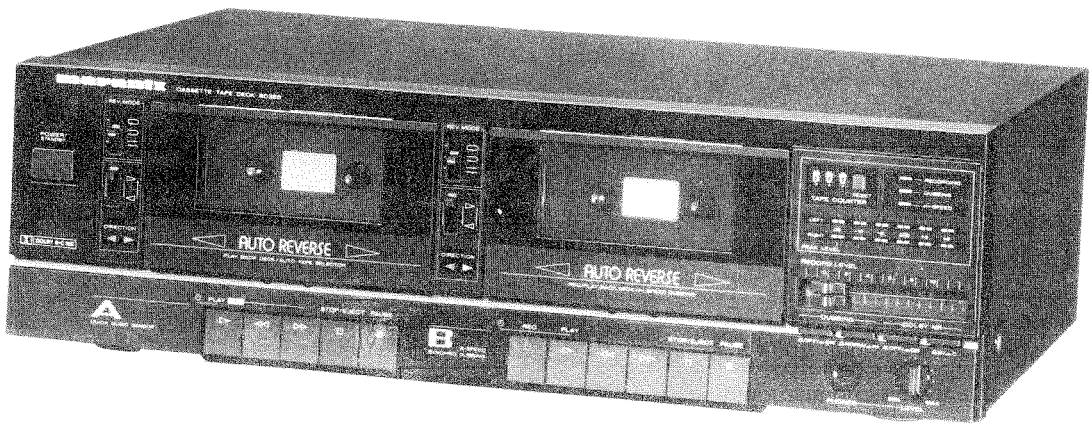
- The "Common parts" which Marantz Japan, Inc. has established are eliminated from this service manual.
- These "Common parts" are applied to all models in the service manuals arranged and issued by MJI.
- To indicate clearly the common parts in the schematic diagram, a line is drawn above or under the Ref. Desig. No. of applicable parts.
- "Common parts" can be supplied from the Marantz service center as ever.
  In case of ordering, please establish the parts number of 12 N/C'S following the procedure mentioned in this service manual "How to establish the parts number for common parts".

1) Please correctly write the parts number of 12 N/C'S following the rule.

# CASSETTE TAPE DECK



Model SD285




Model SD385

## 1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Cassette Tape Deck consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. REC/PLAY Amp. . . . . mounted on P.W. Board P100
2. LED Meter . . . . . mounted on P.W. Board P400
3. Direction A . . . . . mounted on P.W. Board P600
4. Direction B . . . . . mounted on P.W. Board P650
5. Power Switch . . . . . mounted on P.W. Board P700

# 2. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking your Cassette Deck, the following instruments and materials are necessary.

- VTVM
- Audio Oscillator (AF OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Blank Tapes (Completely erased with bulk eraser)
  TDK AC-212 (Normal)
  TDK AC-512 (Special/$CrO_2$)
  TDK AC-712 (Metal)

**NOTE:**
**If any doubt is noted in a measured value, use new tape.**

- Test Tapes (New Tape)

| | |
|---|---|
| TCC-111•MTT-111 | Wow and Flutter, Tape Speed |
| TCC-140•MTT-112B | Signal-to-Noise Ratio |
| TCC-130•MTT-150C | Adjustment of Output Level |
| TCC-161•MTT-257WT | Frequency Response (for Normal) |
| TCC-261•MTT-357WT | Frequency Response (for Special/ $CrO_2$ and Metal) |
| TCC-192•MTT-121 | Cross Talk |
| TCC-194•MTT-141 (A-BEX)•(TEAC) | Channel Separation |

# 3. MECHANICAL ADJUSTMENT AND CHECKS

## 3.1 WOW AND FLUTTER

**Note:**
**This measurement should be made at the begining, middle, and the end of the tape.**

**PLAYBACK**

1. Connect a wow-and-flutter meter to the deck.
2. Load and play a TEAC MTT-111 test tape.
3. Check that the reading on the wow-and-flutter meter is within 0.30% (Model SD385), 0.12% (Model SD285) (WRMS).

## 3.2 TAPE SPEED

1. Connect a frequency counter to the deck.
2. Simply press POWER switch to ON to rotate the motor, then continue the motor rotation for approx. 1 minute for warm-up.
3. As soon as the warm-up finishes, load a TEAC MTT-111 test tape with a 3,000Hz test tone and play the end of the test tape.
4. Adjust each variable resistor to get the following figures.

| | Adjustment point | | Adjustment value (Hz) |
|---|---|---|---|
| DECK A | HIGH speed | R031 | 6,020 ~ 6,040 |
| | LOW speed | R032 | 3,010 ~ 3,020 |
| DECK B | HIGH speed | R033 | 6,000 ~ 6,020 |
| | LOW speed | R034 | 3,000 ~ 3,010 |

**Note:**
*** At first, adjust LOW speed.**
*** To adjust the high speed, connect pin 13 short and set the deck to the play mode.**

5. In play mode, check that the following figures are obtained at the beginning and at the end of the tape.

| | LOW speed | HIGH speed |
|---|---|---|
| **Speed deviation** | 3000Hz + 90, -90Hz | 6000Hz + 180, -180Hz |
| **Speed drifting** | Within 45Hz | Within 90Hz |

## 3.3 REEL TORQUE

* Load the cassette torque meter on the deck and read the pointer indication on the dial scale for each tape transport operation. The measured torque should be within the following specified values:

Specifications: (Model SD385 Only)

| | | | |
|---|---|---|---|
| Take up: | | 35 ~ 70 | g-cm |
| Supply: | FWD | 2.5 ~ 6 | g-cm |
| | REV | 1.5 ~ 5 | g-cm |
| F.F./REW: | | 80 ~ 160 | g-cm |

Specifications: (Model SD285 Only)

| | | |
|---|---|---|
| Take up: | 35 ~ 75 | g-cm |
| Supply: | 2 ~ 6 | g-cm |
| F.F./REW: | 70 ~ 160 | g-cm |

## 3.4 DRIVING TORQUE

* Load the cassette torque meter on the deck and read the pointer indication on the dial scale for each tape transport operation. The measured torque should be within the following specified value:

Specification: 90 g-cm or more.

# 4. ELECTRICAL ADJUSTMENT AND CKECKS

## 4.1 ADJUSTMENTS AND TEST POINT LOCATIONS

| Function | Adjustments | Test points |
|---|---|---|
| Specified output level | R011/R021 [DECk A]<br>R012/R022 [DECK B] | Output terminals |
| Bias OSC | L301 [DECK B] | R127/R227 [DECK B] |
| Record bias | R014/R024 [DECK B] | Output terminals |
| Record level | R013/R023 [DECK B] | Output terminals |

## 4.2 PLAYBACK PERFORMANCE

| Item | Setting | Input signal | Adjust | Measuring point result | Remark |
|---|---|---|---|---|---|
| **1. REC/PLAY head azimuth** | – | MTT-150C | CHECK | OUTPUT: Fig.: 1<br>Phase: within 45° | |
| | | MTT-257WT [10kHz] | Azimuth screw of R/P Head | OUTPUT:<br>Max. output at L&R-ch's (on VTVM) | |
| **2. Specified output level** | – | MTT-150C | R011/R021 (DECK A)<br>R012/R022 (DECK B) | OUTPUT:<br>-3dB±1dB | Spec. output level |
| **3. Frequency response** | NORMAL | MTT-257WT | CHECK | OUTPUT:<br>Fig. 2-1 | |
| | $CrO_2$ | MTT-357WT | CHECK | OUTPUT:<br>Fig.: 2-1 | |
| **4. Signal-to-noise ratio** | Fully erased type | Fully erased tape | CHECK | OUTPUT:<br>46dB min. | Ratio of spec. output -3dB to noise |
| **5. Headphone output level** | | MTT-150C | CHECK | PHONES:<br>-23.8dB±3dB | 8 ohm load |

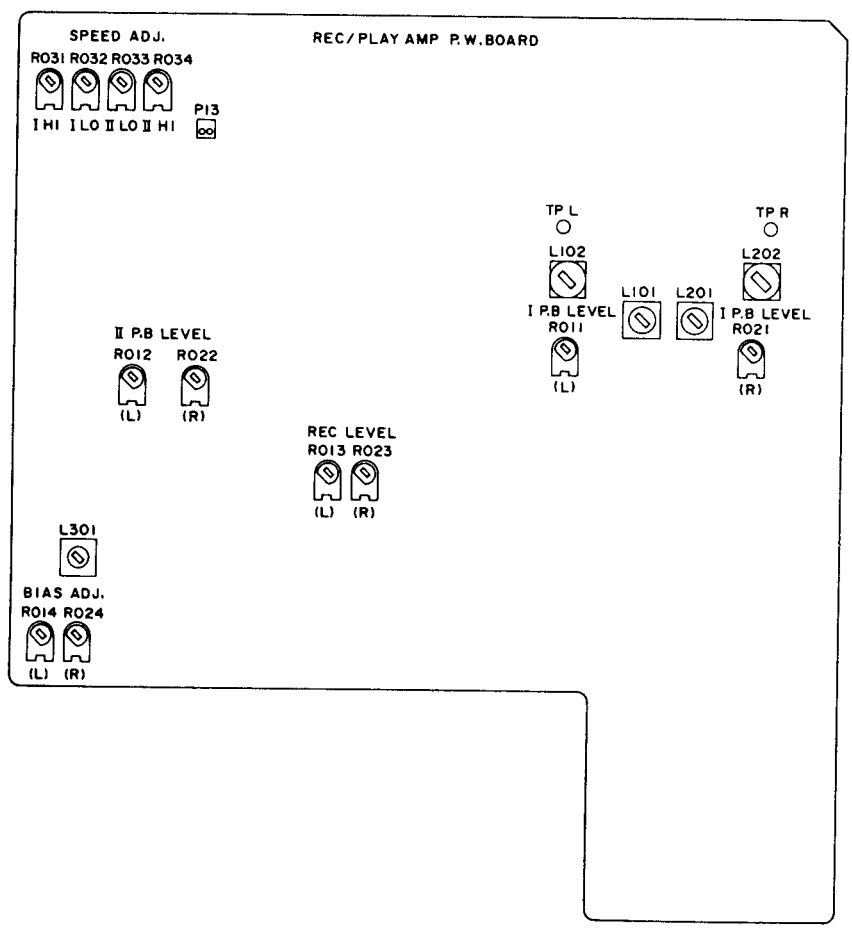
## 4.3 MONITOR PERFORMANCE

| Item | Setting | Input signal | Adjust | Measuring point result | Remark |
|---|---|---|---|---|---|
| **6. Specified line input level** | | Line in:<br>400Hz/-10.8dB | Recording level cont. (L/R) | OUTPUT:<br>-3dB | |
| | IMPORTANT: Do not change the setting of the RECORDING LEVEL controls after establishing their setting as above. | | | | |
| **7. Peak level display** | | Line in:<br>400Hz/-10.8dB | CHECK | Peak level display:<br>0dB | |

## 4.4 RECORDING PERFORMANCE

| Item | Setting | input signal | Adjust | Measuring point result | Remark |
|---|---|---|---|---|---|
| **8. Bias osc** | Record-pause mode | LIN IN: No signal | L301 | R127/R227 100kHz on frequency counter | Spec. bias frequency |
| **9. Record bias** | Tape: TDK AC-212 Rec/play mode | LINE IN: 400Hz & 10kHz/ -43.8dB Record and re-produce them | R014/R024 | OUTPUT: Nearly equal level at both trequencies | Repeat if the result is unsatis-factory |
| **10. Record level** | Tape: TDK AC-212 | LINE IN: 400Hz/-13.8dB Record and re-produce them | R013/R023 | OUTPUT: -6dB | |
| **11. Total hatmonic distortion** | Tape: TDK AC-712 TDK AC-512 TDK AC-212 Rec/play mode | LINE IN: 400Hz/-13.8dB | CHECK | OUTPUT: 2.5% or less with $CrO_2$, METAL 2% or less with NORMAL | |
| **12. Frequency response** | Tape: TDK AC-712 TDK AC-512 TDK AC-212 | LINE IN: Required Signal/ -43.8dB | CHECK | OUTPUT: Fig.: 2-2 ~ 2-3 | If out of spec., recheck #10 |
| **13. Signal-to-noise ratio** | Tape: TDK AC-712 TDK AC-512 TDK AC-212 | LINE IN: 400Hz/-10.8dB → no signal | CHECK | OUTPUT: 46dB min. (Metal, $CrO_2$) 45dB min. (NORMAL) | Ratio of spec. output of -3dB to noise |
| **14. Erase efficency** | Engage 1kHz filter. Record a 1-kHz signal. Reqind tape to midpoint of recorded portion. Erase the recorded portion with no input signal. Find the difference between the 1-kHz portion and the "no-signal" portion. | | | | |
| | Tape: TDK AC-712 | LINE IN: 1kHz/-0.8dB → no signal | CHECK | OUTPUT: 65dB min. ratio | |
| **15. Channel seperation** | * Do not connect LINE IN (R), and engage 1-kHz filter. * Set the deck to record mode. Find the difference between the 1-kHz record portion (L-ch) and the "no signal" portion (R-ch). | | | | |
| | Tape: TDK AC-512 ($CrO_2$) | LINE IN: L-ch 1kHz/ -10.8dB R-ch no signal | CHECK | OUTPUT: 30dB min. ratio | |
| **16. Adjacent track cross-talk** | * Do not connect LINE IN (L) and OUTPUT (L). * Record a 125Hz signal on R-ch and note output level. Invert tape and play R-ch track. Check leakage level against the output reference of previously recorded portion. | | | | |
| | Tape: TDK AC-512 | LINE IN: L-ch no signal R-ch 125Hz/ -10.8dB | CHECK | OUTPUT: 40dB min. ratio | |

| Item | Setting | input signal | Adjust | Measuring point result | Remark |
|---|---|---|---|---|---|
| **17. Dolby NR effect (B-type)** | * Record a 1-kHz signal with DOLBY NR IN/OUT switch in OUT and Dolby NR Type Selector switch in B-NR. Play this portion with DOLBY NR IN/OUT switch set to OUT and IN. Obtain the difference in output level between OUT and IN positions. Repeat the above process using a 10-kHz signal. | | | | |
| | Tape sw: METAL Tape: TDK AC-712 | LINE IN: 1kHz/-30.8dB | CHECK | OUTPUT: Variation 3dB ~ 8dB | |
| | Tape sw: METAL Tape: TDK AC-712 | LINE IN: 10kHz/-40.8dB | CHECK | OUTPUT: Variation 8dB ~ 12dB | |
| **18. Dolby NR effect (C-type)** | * Repeat the same procedure above, except see that the Dolby NR Type Selector switch is set to C-NR. | | | | |
| | Tape sw: METAL Tape: TDK AC-712 | LINE IN: 1kHz/-40.8dB | CHECK | OUTPUT: Variation 16dB ~ 20dB | |
| | Tape sw: METAL Tape: TDK AC-712 | LINE IN: 10kHz/-50.8dB | CHECK | OUTPUT: Variation 16dB ~ 20dB | |



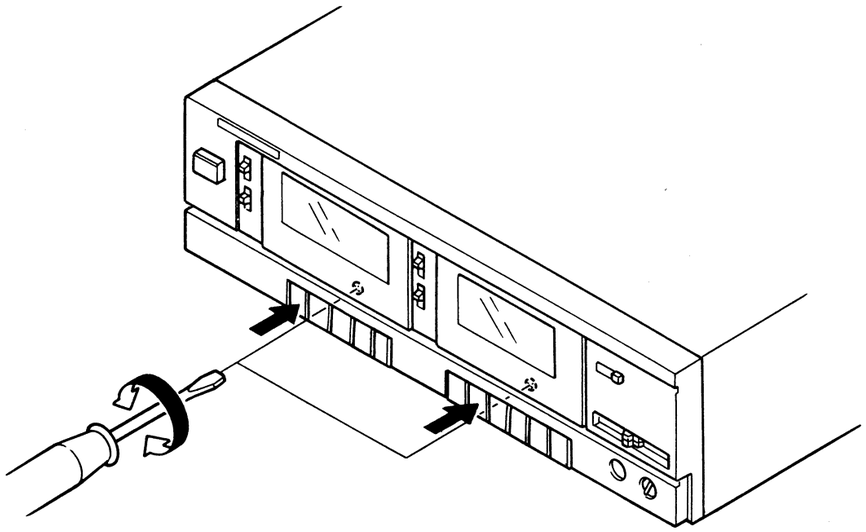


Fig. 1 Head azimuth adjustment

**PLAYBACK**
Tape: MTT-257 (NORMAL)
Tape: MTT-357 ($CrO_2$/METAL)

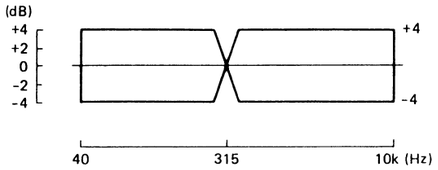



Fig.: 2-1 Playback frequency response

**OVERALL**
Tape: AC-212 (NORMAL)
Tape: AC-512 ($CrO_2$)
Tape: AC-712 (METAL)

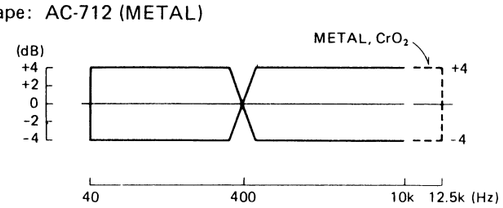



Fig. 2-2 Overall frequency response (Dolby NR: OUT, B, C)

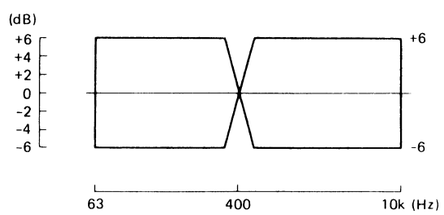


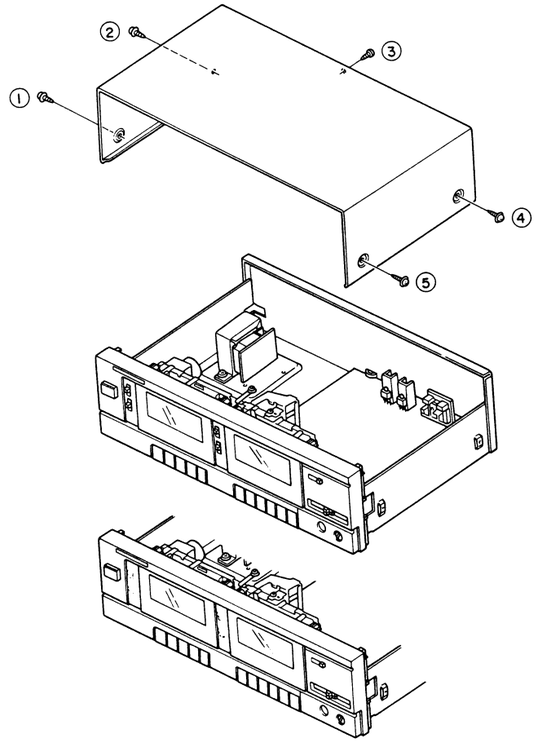

Fig. 2-3 Overall frequency response (Dubbing: Low/High speed)



# 5. DISASEMBLY

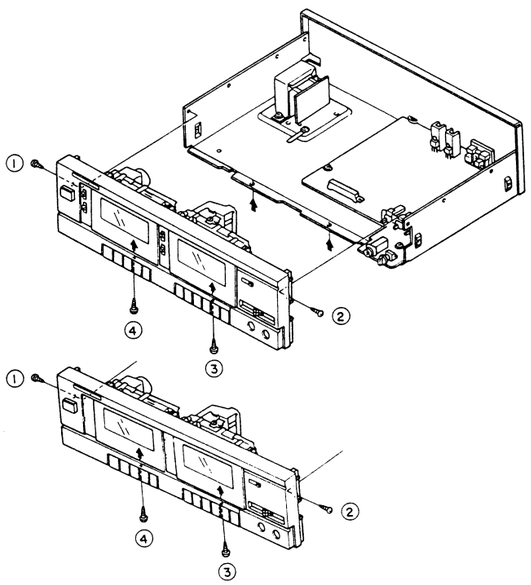
## 5.1 REMOVING THE TOP COVER

Remove the 5 screws 1 ~ 5



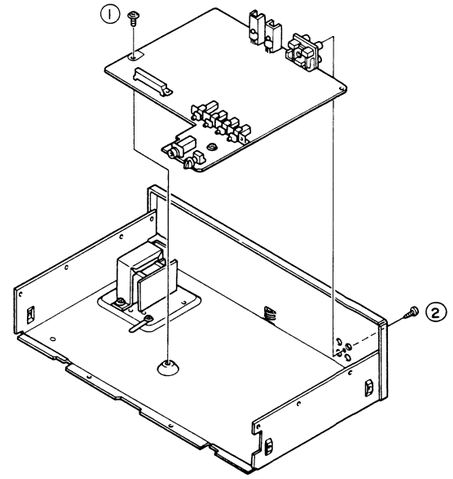

## 5.2 REMOVING THE FRONT PANEL

Remove the 4 screws 1 ~ 4



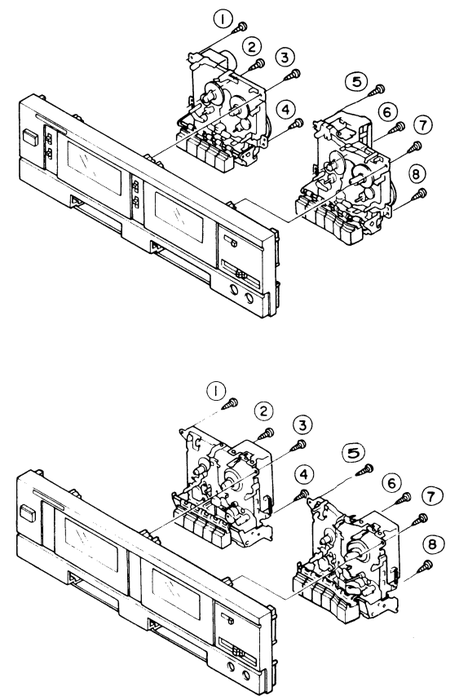

## 5.3 REMOVING THE MAIN P.W. BOARD

Remove the 2 screws 1 , 2



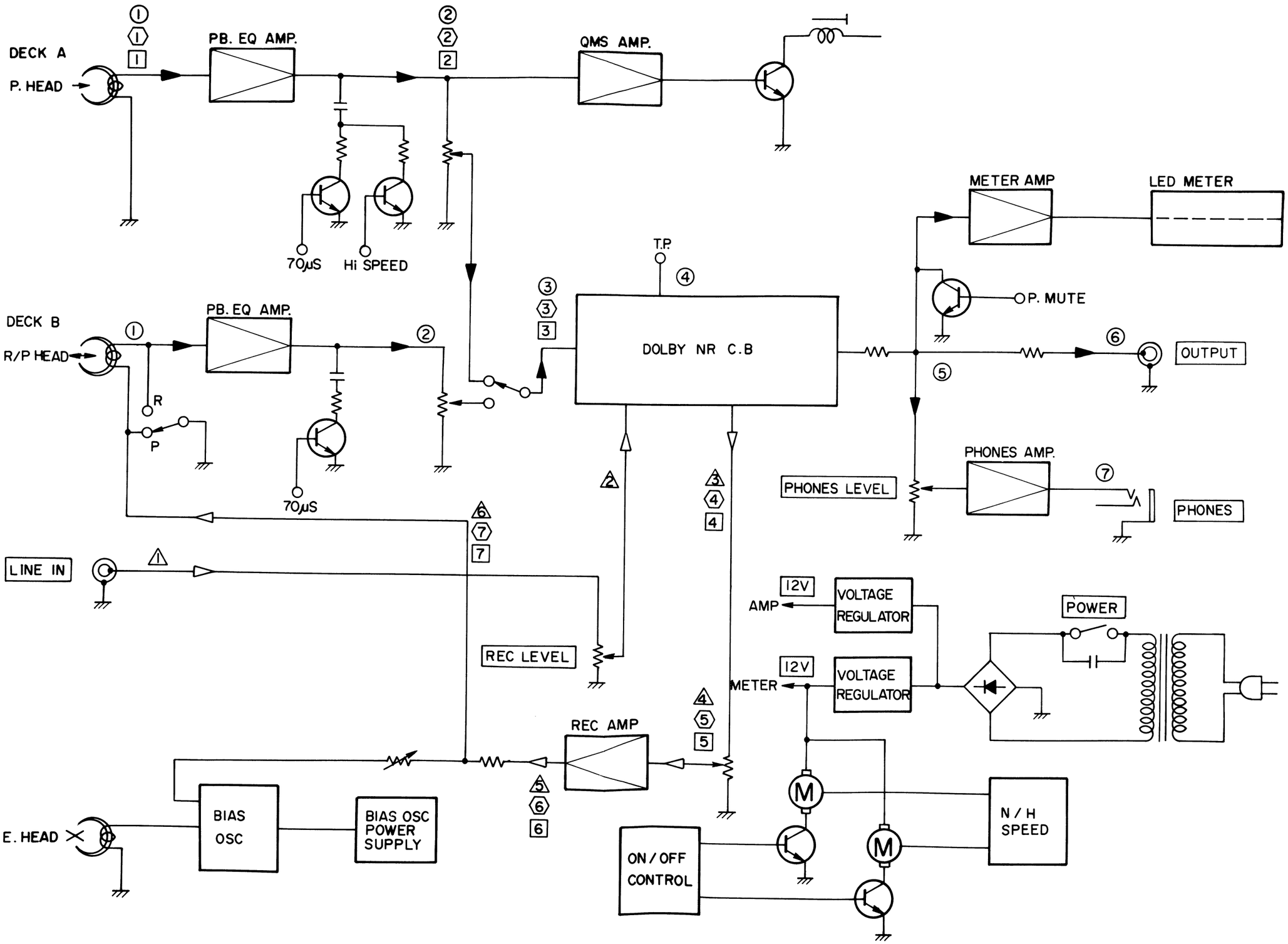

## 5.4 REMOVING THE MECHANISM

Remove the 8 screws 1 ~ 8



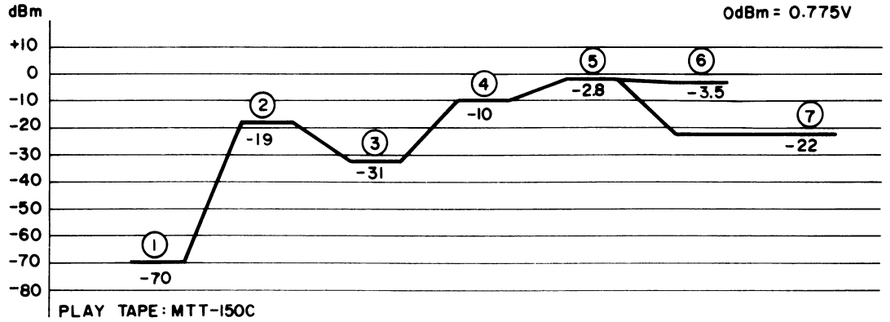
# 6. BLOCK AND LEVEL DIAGRAM

## 6.1 BLOCK DIAGRAM

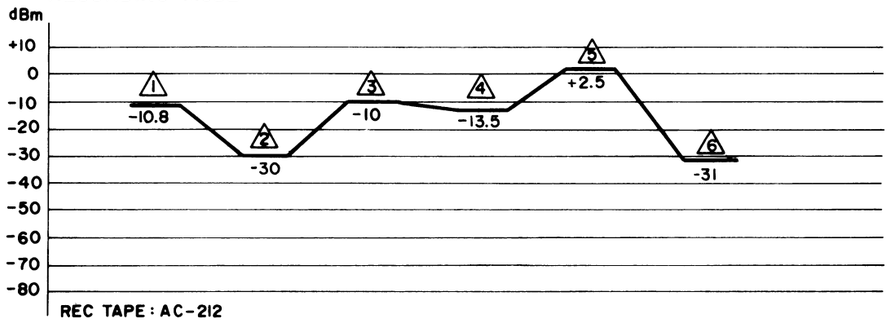


## 6.2 MODEL SD285 LEVEL DIAGRAM

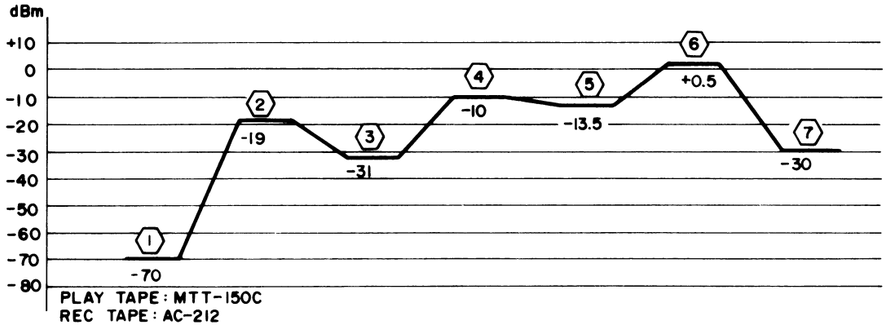
### PLAY BACK MODE



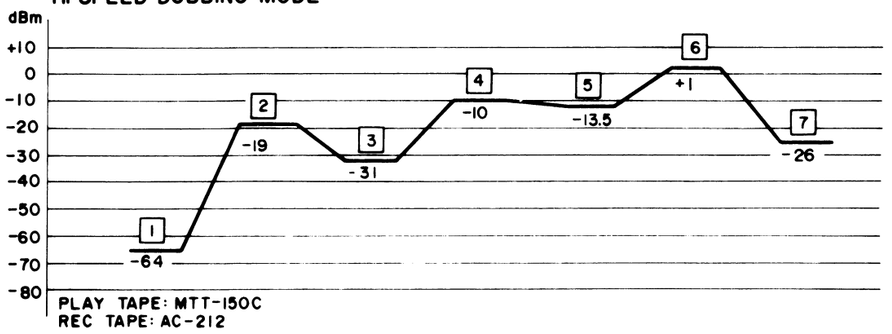

### RECORDING MODE




### STANDARD SPEED DUBBING MODE



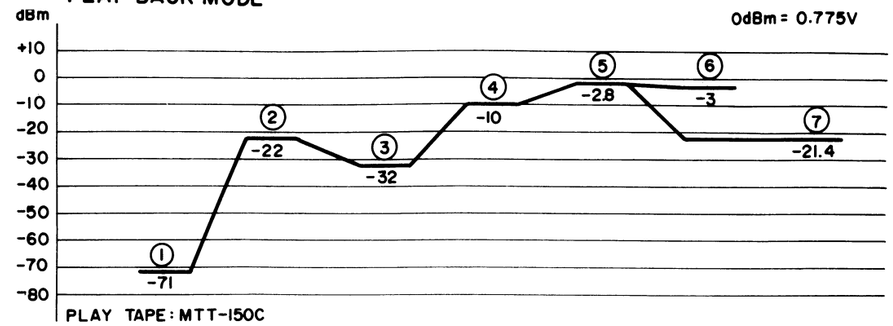

### HI SPEED DUBBING MODE



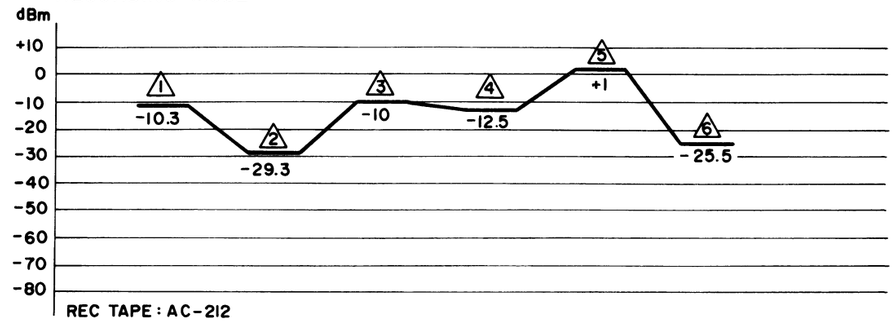



## 6.3 MODEL SD385 LEVEL DIAGRAM

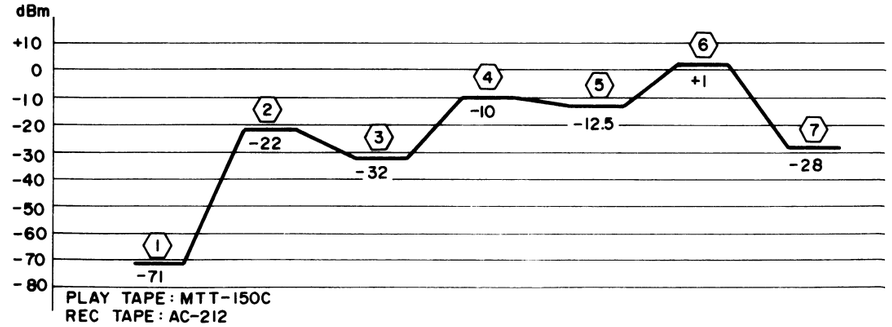
### PLAY BACK MODE



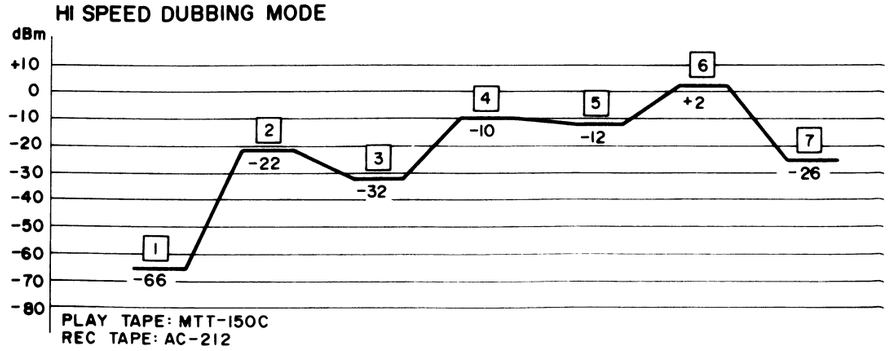

### RECORDING MODE




### STANDARD SPEED DUBBING MODE




### HI SPEED DUBBING MODE

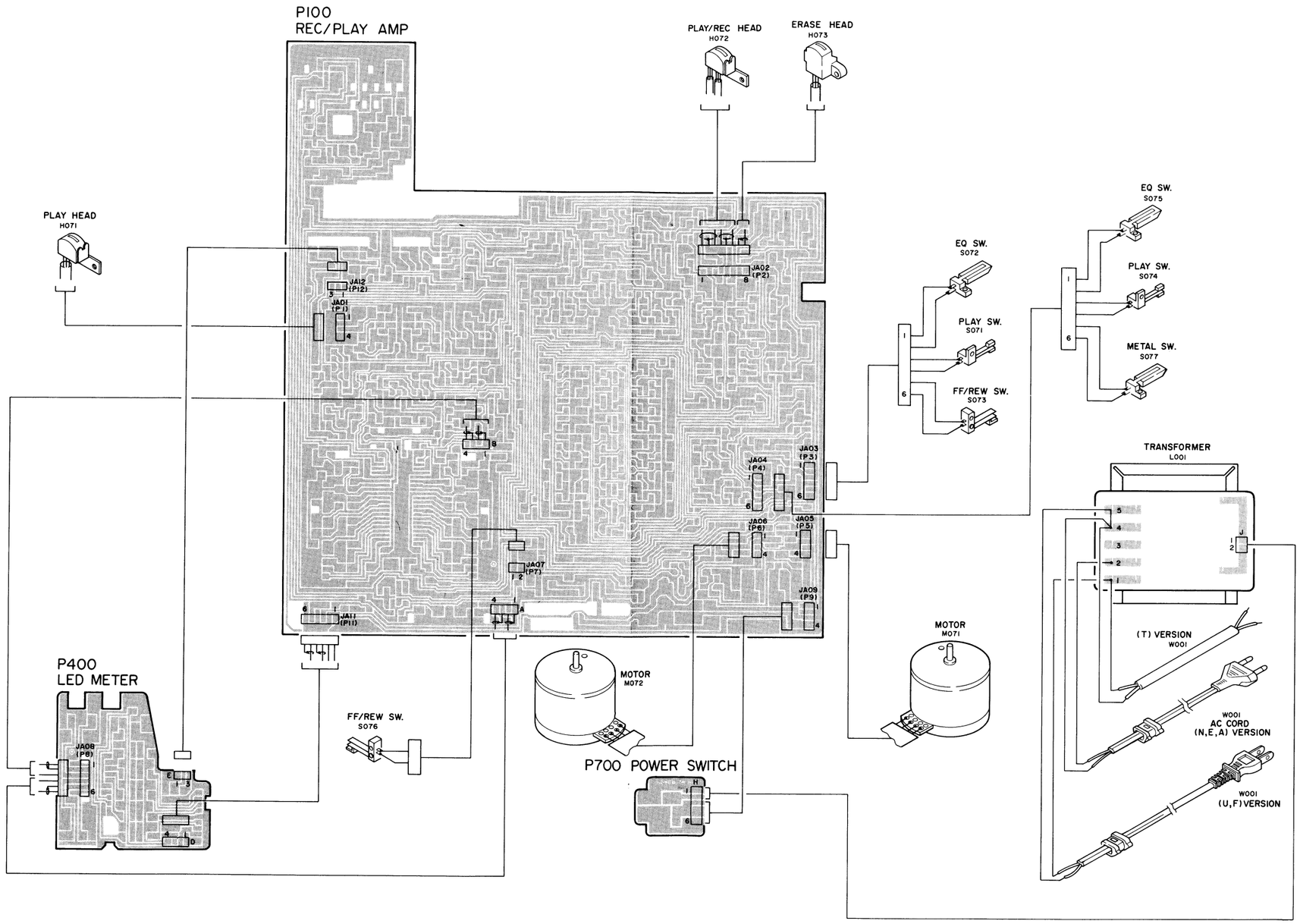





MZ 1886

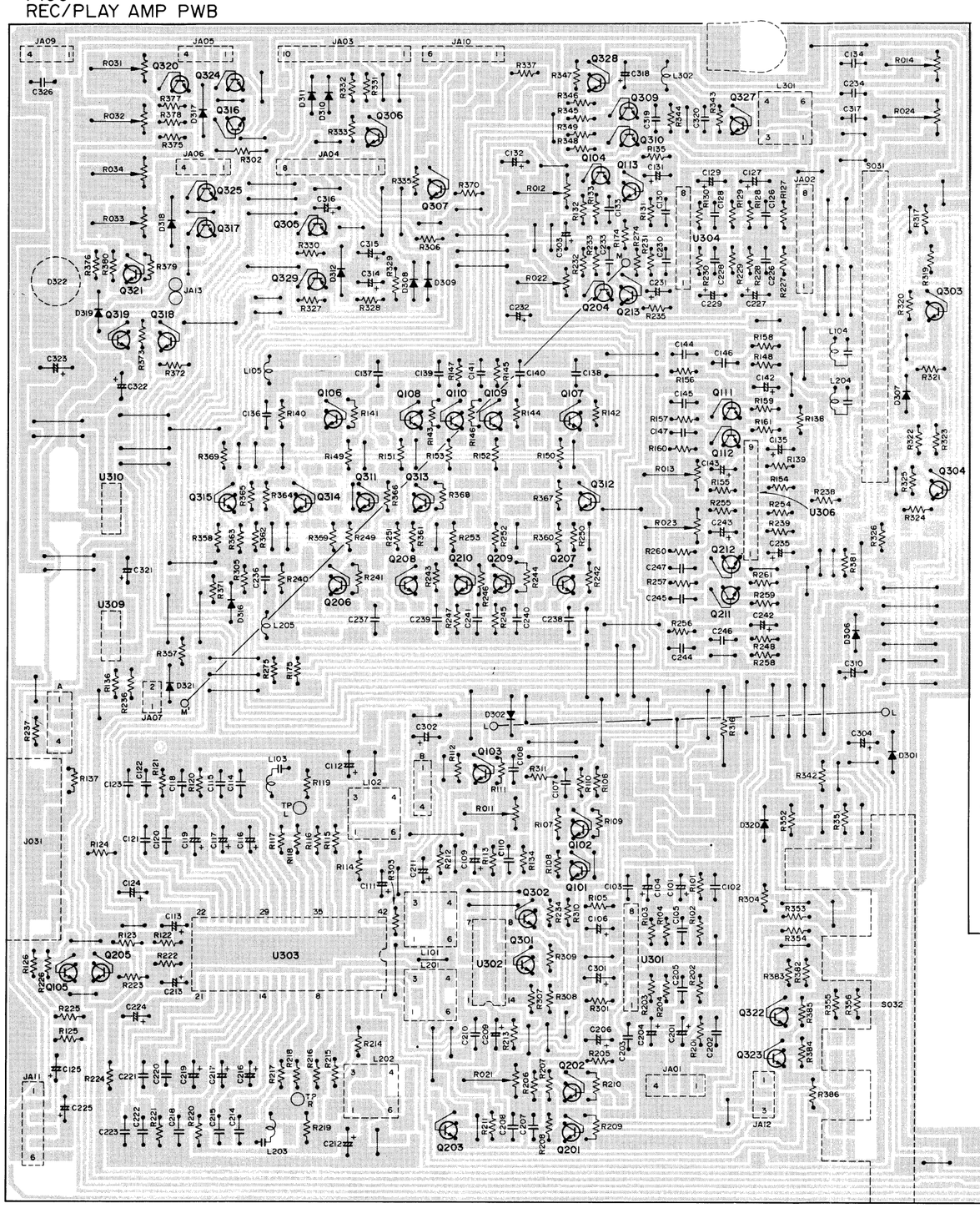
# 7. WIRING DIAGRAM AND PARTS LOCATION

## 7.1 MODEL SD285 WIRING DIAGRAM (Component Side)

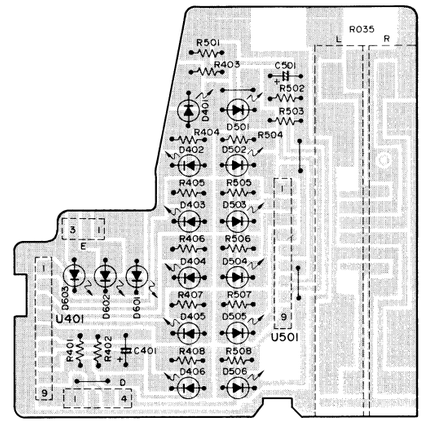


## 7.2 MODEL SD285 PARTS LOCATION (Pattern Side)

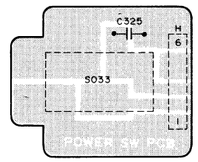
P100
REC/PLAY AMP PWB



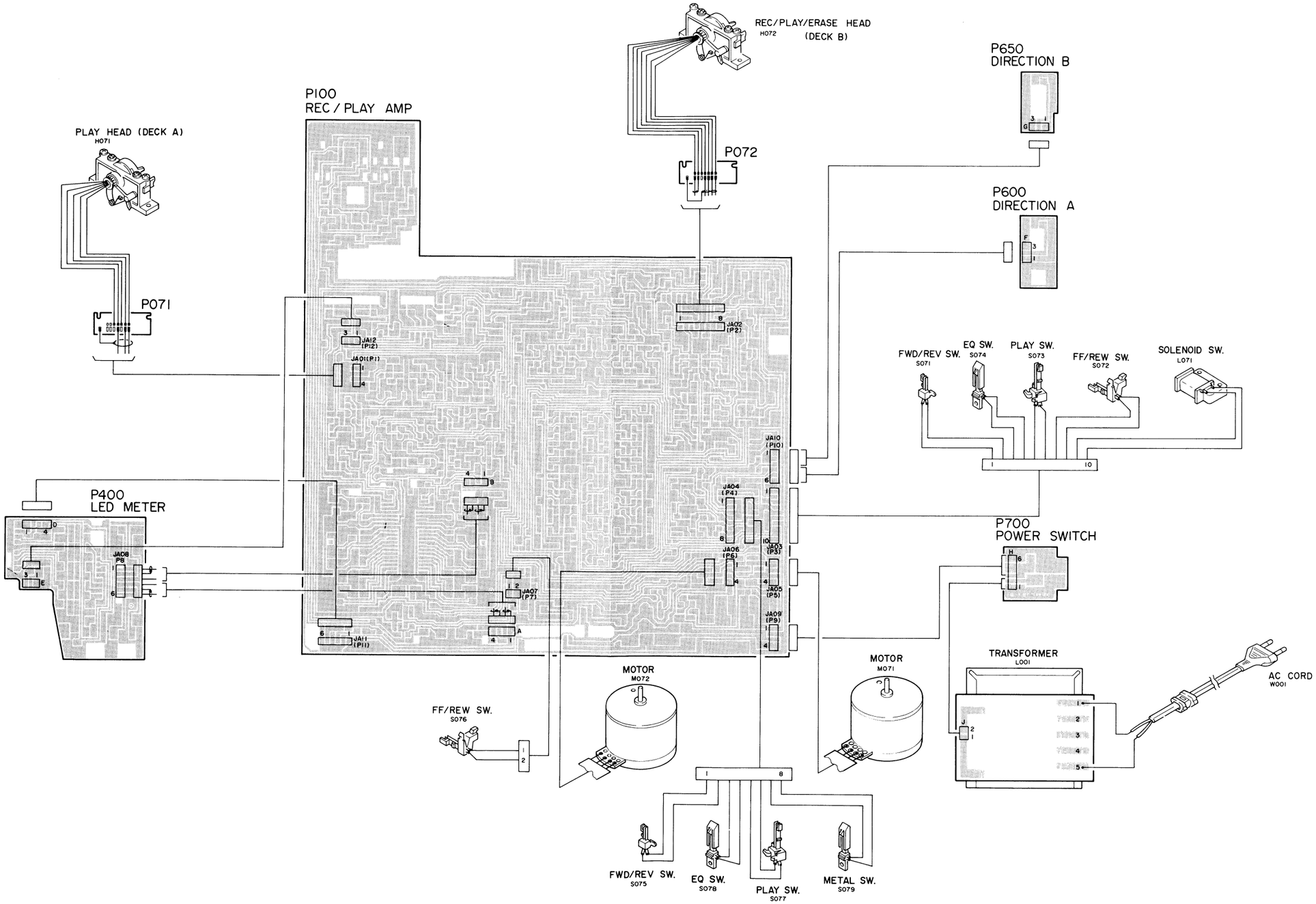
P400
METER PWB



P700
POWER SW PWB

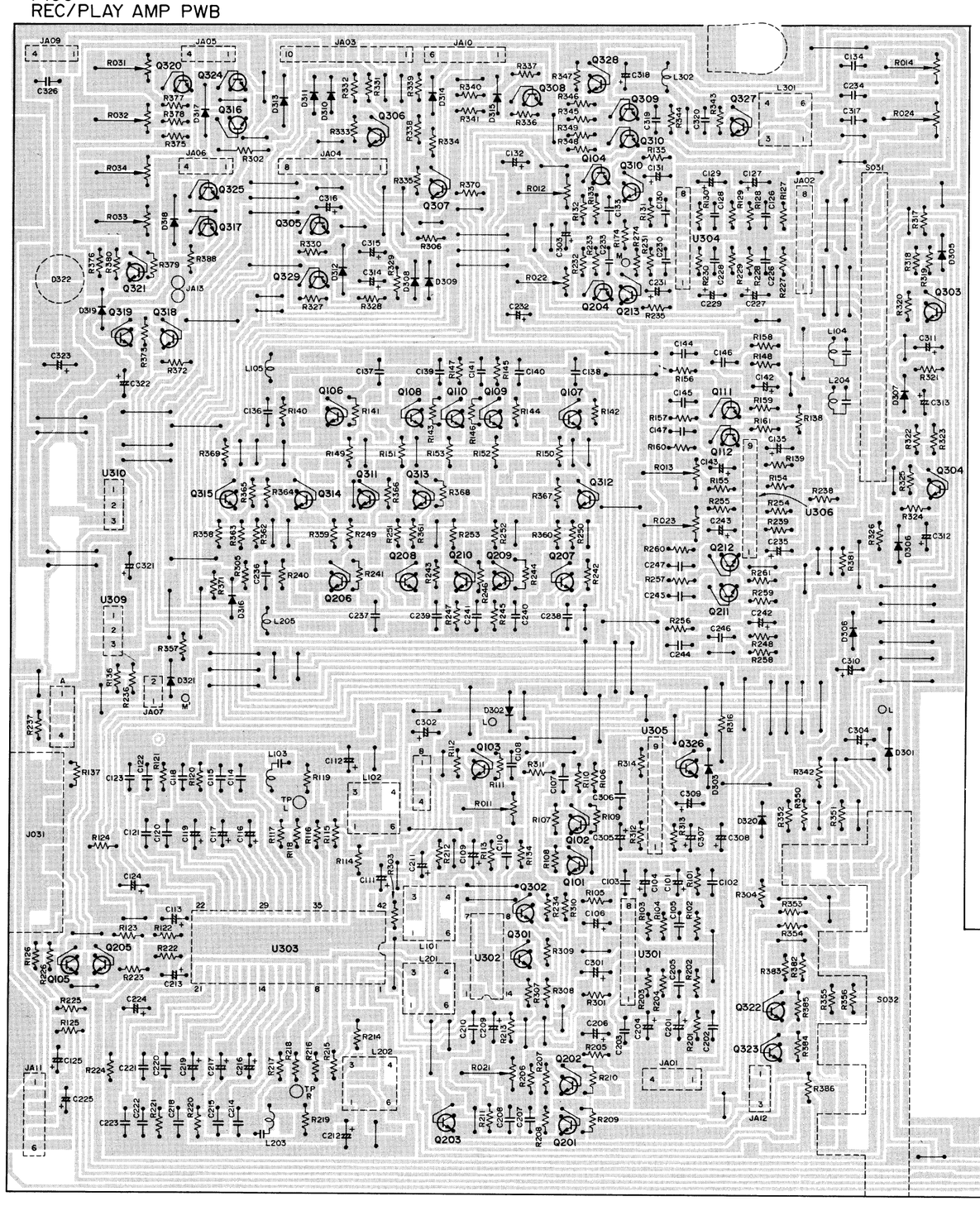


## 7.3 MODEL SD385 WIRING DIAGRAM (Component Side)

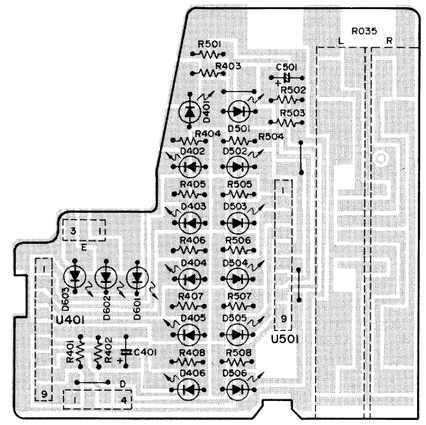


## 7.4 MODEL SD385 PARTS LOCATION (Pattern Side)

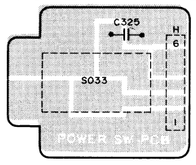
P100
REC/PLAY AMP PWB



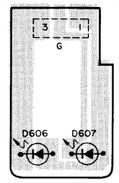

P400
METER PWB



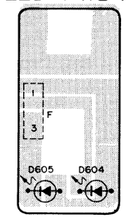

P700
POWER SW PWB




P650
LED PWB B

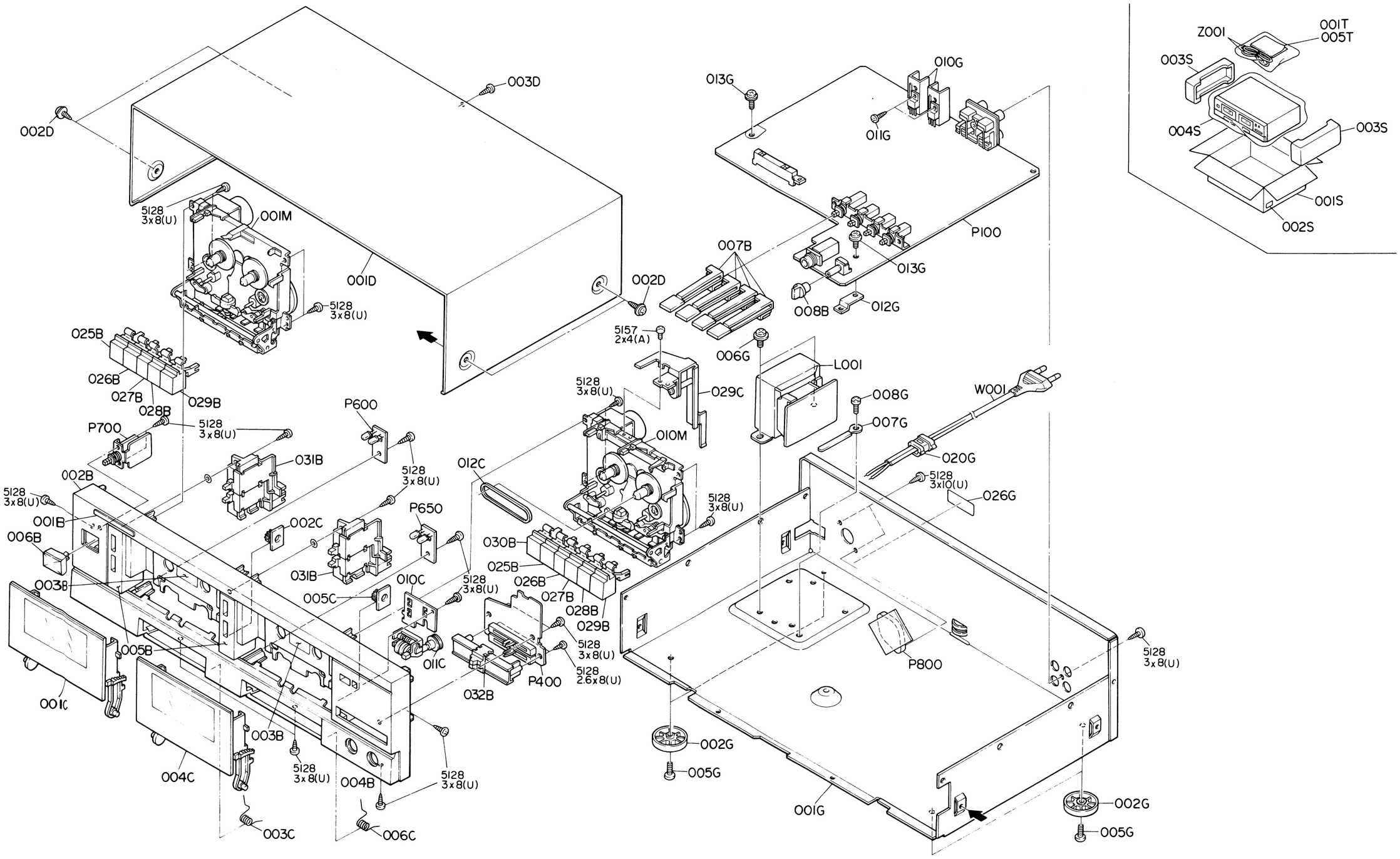



P600
LED PWB A



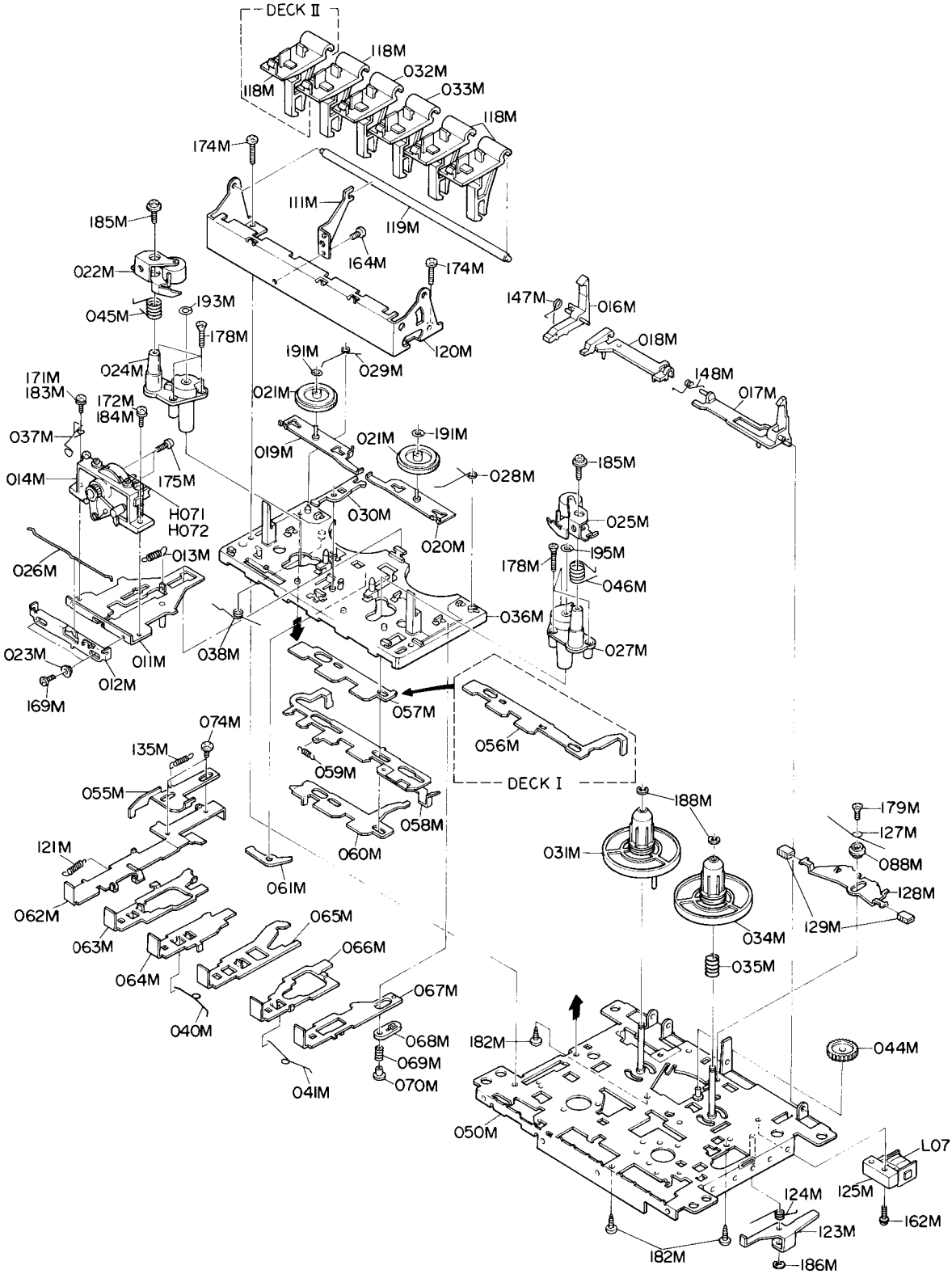
# 8. EXPLODED VIEWS AND PARTS LIST

**[C01-99] FRONT PANEL, LID (TOP & BOTTOM COVER), GENERAL PARTS AND PACKING MATERIALS**



| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 001B | 4822 454 11825 | Badge |
| 002B | 4822 443 40661 | Front Panel |
| 003B | 4822 380 20314 | Reflector |
| 004B | 4822 347 20113 | Indicator |
| 005B | 4822 347 20112 | Indicator |
| 006B | 4822 410 26587 | Button, Power |
| 007B | 4822 410 26588 | Button, Push |
| 008B | 4822 413 41446 | Knob, Level |
| 025B | 4822 410 26562 | Button, Play |
| 026B | 4822 410 26563 | Button, REW |
| 027B | 4822 410 26564 | Button, FF |
| 028B | 4822 410 26565 | Button, Stop |
| 029B | 4822 410 26566 | Button, Pause |
| 030B | 4822 410 26567 | Button, Rec |
| 031B | 4822 462 30394 | Rail Assembly, Direction |
| 032B | 4822 462 30395 | Rail Assembly, VOL |
| 001C | 4822 443 40658 | Case, Cassette |
| 002C | 4822 529 10212 | Dumper |
| 003C | 4822 492 42276 | Spring, Case Open |
| 004C | 4822 443 40659 | Case, Cassette |
| 005C | 4822 529 10212 | Dumper |
| 006C | 4822 492 42276 | Spring, Case Open |
| 011C | 4822 349 50325 | Counter, Tape |
| 012C | 4822 358 30851 | Belt, Counter |
| 029C | 4822 251 70309 | Arm Assembly, Rec |
| 001D | 4822 443 62498 | Lid, Top Cover |
| 002D | 4822 502 13115 | Fin Neck B.T. Screw M3 x 6 |
| 003D | 4822 502 13114 | Screw |
| 002G | 4822 462 41269 | Leg (K) |
| 005G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 006G | 4822 502 13117 | Fin Neck B.T. Screw M4 x 6 |
| 008G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 011G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 013G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 020G | 4822 265 20396 | Bushing, AC Cord |
| ⚠ L001 | 4822 146 30712 | Power Transformer [N, A, T] |
| | 4822 146 21341 | Power Transformer [E] |
| ⚠ W001 | 4822 321 10568 | A.C. Power Cord [N, E] |
| | | **PACKING** |
| 001T | 4822 736 13991 | User Manual |
| Z001 | 4822 321 22886 | Connective Cord |

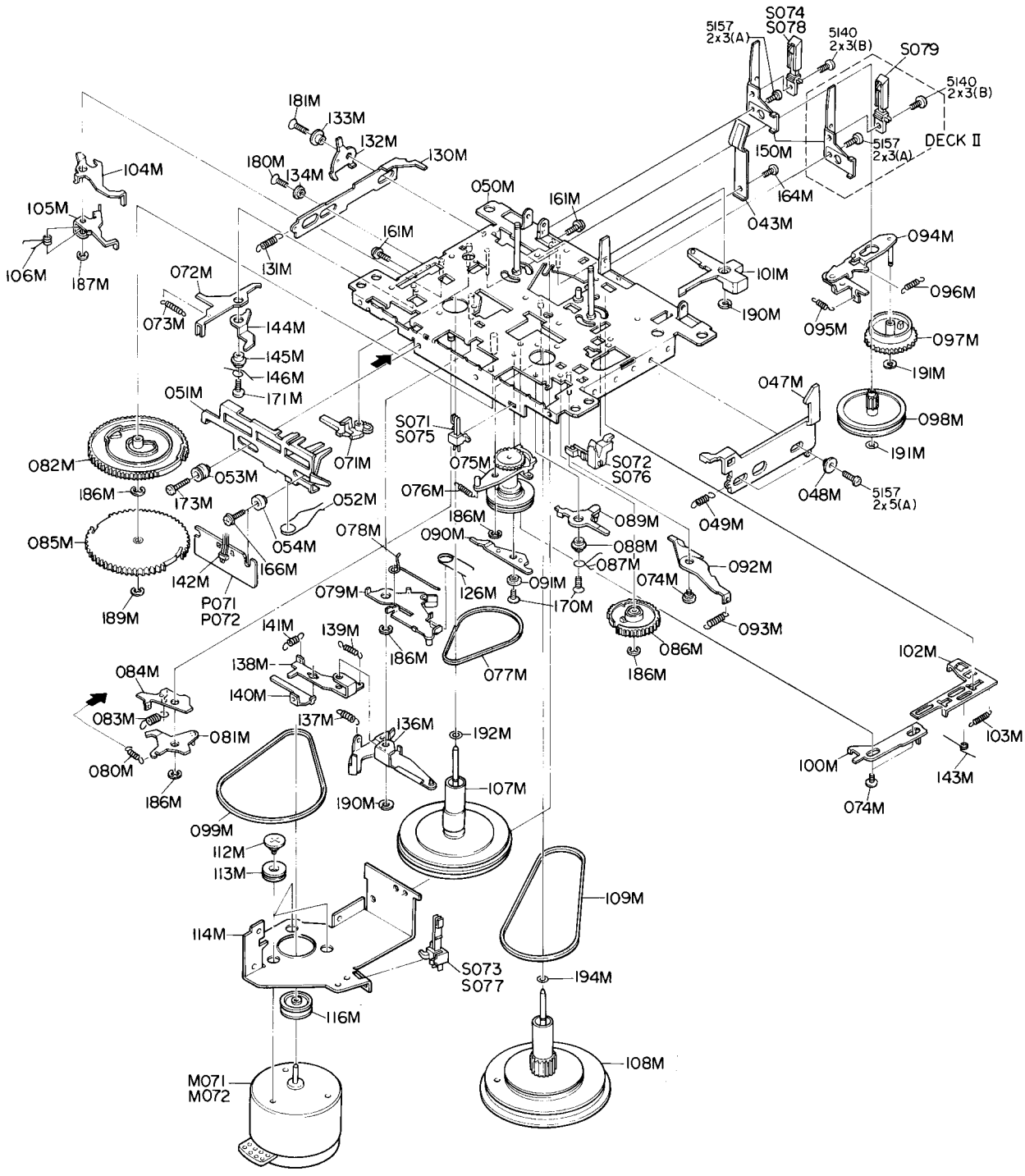
**[P01-99] PARTS ASSEMBLED ON THE TOP OF CHASSIS**



| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 012M | 4822 403 53478 | Lever, C.H.P |
| 013M | 4822 492 63998 | Spring, Head Panel |
| 014M | 4822 403 53477 | Bracket (K), Head Base |
| 016M | 4822 402 50266 | Lever, Rec Safety (F); Deck II |
| 017M | 4822 402 50267 | Lever, Rec Safety (R1); Deck II |
| 018M | 4822 402 50268 | Lever, Rec Safety (R2); Deck II |
| 021M | 4822 528 70538 | Wheel (K), T. Roller |
| 022M | 4822 403 53474 | Arm (K), Pinch Roller (R) |
| 023M | 4822 403 53476 | Collar, C.H.P. Lever |
| 025M | 4822 403 53475 | Arm (K), Pinch Roller |
| 026M | 4822 492 52014 | Spring, Pinch Roller |
| 028M | 4822 492 70036 | Spring, T. Roller (F) |
| 029M | 4822 492 70037 | Spring, T. Roller (R) |
| 031M | 4822 528 10712 | Reel (K), (R) |
| 032M | 4822 403 53479 | Lever, Operation |
| 033M | 4822 403 53481 | Lever, Operation |
| 034M | 4822 528 10713 | Reel (K), (F) |
| 035M | 4822 492 32886 | Spring, Back Tension |
| 037M | 4822 492 70038 | Spring, Clamp |
| 038M | 4822 492 52015 | Spring, Button Lever |
| 040M | 4822 492 52018 | Spring, Button Lever |
| 041M | 4822 492 52019 | Spring, Button Lever |
| 044M | 4822 522 32484 | Gear, FF |
| 045M | 4822 492 32891 | Spring, Pinch Arm (R) |
| 046M | 4822 492 32892 | Spring, Pinch Arm (F) |
| 055M | 4822 403 53486 | Lever, Rec Sensor; Deck II |
| 056M | 4822 402 50257 | Lever, T.P.S Actuator; Deck I |
| 057M | 4822 462 41274 | Stopper, R/C; Deck II |
| 058M | 4822 402 50258 | Lever (K), P/B Actuator, Deck I |
| | 4822 403 53487 | Lever (K), P/B Actuator, Deck II |
| 059M | 4822 492 52021 | Spring, P/B Lever |
| 060M | 4822 402 50259 | Lever, SW Actuator |
| 062M | 4822 403 30721 | Lever, REC; Deck II |
| 063M | 4822 402 50271 | Lever, PLAY |
| 064M | 4822 402 50261 | Lever, RWD |
| 065M | 4822 402 50262 | Lever, FF |
| 066M | 4822 402 50263 | Lever, STOP |
| 067M | 4822 402 50264 | Lever, PAUSE |
| 069M | 4822 492 52022 | Spring, Pause Lever |
| 070M | 4822 268 30136 | Stopper |
| 074M | 4822 502 13118 | Screw, Collar; Deck II |
| 088M | 4822 532 11668 | Coller, Brake Arm |
| 111M | 4822 530 70452 | Retainer, Shaft, Stopper |
| 119M | 4822 535 92503 | Shaft, Button Lever |
| 121M | 4822 492 52023 | Spring, Rec Lever; Deck II |
| 125M | 4822 157 53584 | Ferric Core, Deck I |
| 127M | 4822 492 32899 | Spring, Brake |
| 128M | 4822 403 53488 | Arm, Brake |
| 129M | 4822 466 40238 | Brake, Shoe |
| 162M | 4822 502 13125 | F. Washer Screw F2 x 4 |
| 164M | 4822 502 13119 | Screw M2 x 3 |
| 169M | 4822 502 13133 | P.H.M. Screw P1.7 x 3 |
| 171M | 4822 502 13131 | P.H.M. Screw P2 x 4.5, Deck I |
| 172M | 4822 502 13132 | P.H.M. Screw P2 x 5.5, Deck I |
| 174M | 4822 502 13128 | P.H.M. Screw P2 x 8 |
| 175M | 4822 502 13121 | Screw M2 x 3 |
| 178M | 4822 502 13135 | F.H.M. Screw F2 x 8.5 |
| 179M | 4822 502 13134 | F.H.M. Screw F2 x 3.5 |
| 182M | 4822 502 13138 | Screw M2 x 6 |
| 183M | 4822 502 13131 | P.H.M. Screw P2 x 4.5, Deck II |

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 184M | 4822 502 13132 | RG Ring, E Type P2 x 5.5, Deck II |
| 185M | 4822 502 13139 | Screw M2 x 6 |
| 186M | 4822 530 70122 | RG Ring, E Type $\phi$2 |
| 188M | 4822 532 11678 | Washer |
| 191M | 4822 532 11672 | Washer |
| 193M | 4822 532 11674 | Washer |
| 195M | 4822 532 11676 | Washer |
| H071 | 4822 249 30136 | Head, Playback; Deck I |
| H072 | 4822 249 10368 | Head, Rec/Play/Erase; Deck II |
| L071 | 4822 157 53566 | Solenoid Coil, Deck I |

**[P02-99] PARTS ASSEMBLED ON THE REVERSE OF CHASSIS**



| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 043M | 4822 492 70018 | Leaf Spring |
| 047M | 4822 402 61214 | Hook, Eject Slide Lever |
| 048M | 4822 532 11665 | Collar, Hook |
| 049M | 4822 492 70005 | Spring, Hook |
| 051M | 4822 402 61215 | Lever, CH Slide |
| 052M | 4822 492 70006 | Spring, CH Gear |
| 053M | 4822 532 11666 | Collar, CH Lever (A) |
| 054M | 4822 532 11667 | Collar, CH Lever (B) |
| 071M | 4822 402 50265 | Lever, Mode |
| 073M | 4822 492 70007 | Spring, Deck I |
| 074M | 4822 502 13118 | Screw, Collar; Deck II |
| 075M | 4822 528 20621 | Clutch (K), RF |
| 076M | 4822 492 70008 | Spring, RF Clutch |
| 077M | 4822 358 30855 | Belt, RF |
| 078M | 4822 492 70009 | Spring, Lift |
| 080M | 4822 492 70011 | Spring |
| 081M | 4822 403 53483 | Arm (K), M Trigger (A) |
| 082M | 4822 522 32485 | Gear, M |
| 083M | 4822 492 70012 | Spring |
| 085M | 4822 522 32486 | Gear, CH |
| 086M | 4822 522 32487 | Gear, P |
| 087M | 4822 492 32893 | Spring, P Trigger Arm |
| 088M | 4822 532 11668 | Collar, P Trigger |
| 091M | 4822 532 11669 | Collar, RF Arm |
| 092M | 4822 402 61213 | Arm (K), P Actuator |
| 093M | 4822 492 70013 | Spring, P Arm |
| 094M | 4822 492 70019 | Lever (K), Cam Gear Plate |
| 095M | 4822 492 70014 | Spring, Sensor Plate |
| 096M | 4822 492 70015 | Spring, Cam Gear Plate |
| 097M | 4822 522 32483 | Cam, Gear |
| 098M | 4822 358 30854 | Pulley |
| 099M | 4822 358 30864 | Belt, Full Auto; Deck I |
| | 4822 358 30859 | Belt, Full Auto; Deck II |
| 103M | 4822 492 70016 | Spring, Control Lever |
| 104M | 4822 402 30168 | Lever, Stop |
| 105M | 4822 402 61216 | Lever, D-S Function |
| 106M | 4822 492 70017 | Spring, Function Lever |
| 107M | 4822 528 60338 | Flywheel (K), FL Pulley |
| 108M | 4822 528 60339 | Flywheel (K), FL Gear |
| 109M | 4822 358 30862 | Belt, Main |
| 112M | 4822 502 13136 | Screw, Motor |
| 113M | 4822 462 41275 | Buffer, Motor |
| 116M | 4822 528 81234 | Pulley, Motor |
| 133M | 4822 403 53484 | Collar, M Kick Lever; Deck II |
| 134M | 4822 403 53485 | Collar, Deck II |
| 145M | 4822 403 53489 | Collar, M Switch Lever |
| 161M | 4822 502 13124 | F. Washer Screw F2 x 3 |
| 164M | 4822 502 13119 | Screw M2 x 3 |
| 166M | 4822 502 13137 | Screw M2 x 6 |
| 170M | 4822 502 13129 | P.H.M. Screw P2 x 3.5 |
| 173M | 4822 502 13127 | P.H.M. Screw P2 x 6 |
| 180M | 4822 502 13123 | Screw M2 x 3.5, Deck II |
| 181M | 4822 502 13122 | Screw M2.3 x 5, Deck II |
| 186M | 4822 530 70122 | RG Ring, E Type $\phi$2 |
| 187M | 4822 530 70121 | RG Ring, E Type $\phi$1.5 |
| 189M | 4822 532 11677 | Washer |
| 190M | 4822 532 11671 | Washer |
| 191M | 4822 532 11672 | Washer |
| 192M | 4822 532 11673 | Washer |
| 194M | 4822 532 11675 | Washer |

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| S071 | 4822 278 90586 | Mini Switch; Deck I |
| S072 | 4822 278 90587 | Mini Switch; Deck I |
| S073 | 4822 278 90588 | Mini Switch; Deck I |
| S074 | 4822 278 90589 | Mini Switch; Deck I |
| S075 | 4822 278 90586 | Mini Switch; Deck II |
| S076 | 4822 278 90587 | Mini Switch; Deck II |
| S077 | 4822 278 90588 | Mini Switch; Deck II |
| S078 | 4822 278 90589 | Mini Switch; Deck II |
| S079 | 4822 278 90589 | Mini Switch; Deck II |
| M071 | 4822 361 21139 | D.C. Motor; Deck I |
| M072 | 4822 361 21139 | D.C. Motor; Deck II |

## ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05 --- 140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05 --- 160, Carbon film fixed resistor, ±5%, 1/6W

① — Resistance value

Examples

① Resistance value

| | | | |
|---|---|---|---|
| 0.1Ω...001 | 10Ω...100 | 1kΩ...102 | 100kΩ...104 |
| 0.5Ω...005 | 18Ω...180 | 2.7kΩ...272 | 680kΩ...684 |
| 1Ω...010 | 100Ω...101 | 10kΩ...103 | 1MkΩ...105 |
| 6.8Ω...068 | 390Ω...391 | 22kΩ...223 | 4.7MkΩ...475 |

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C***: CERAMIC CAP.

(1) DD1 --- 370, Ceramic condenser
①② Disc type
Temp. coeff. P350 ~ N1000, 50V
Capacity value
Tolerance

Examples

① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5

* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±5%

② Capacity value

| | | |
|---|---|---|
| 0.5pF...005 | 3pF...030 | 100pF...101 |
| 1pF...010 | 10pF...100 | 220pF...221 |
| 1.5pF...015 | 47pF...470 | 560pF...561 |

C***: CERAMIC CAP.

(1) DK16 --- 300, High dielectric constant ceramic condenser
① Disc type
Temp. chara. 2B4, 50V
Capacity value

Example

② Capacity value

| | | |
|---|---|---|
| 100pF...101 | 1000pF...102 | 10000pF...103 |
| 470pF...471 | 2200pF...222 | |

C***: ELECTROLY CAP. ( ⧺ ), FILM CAP. ( ⧦ )

(1) EA ------ 10, Electrolytic condenser
①② One-way lead type, Tolerance ±20%
Dielectric strength
Capacity value

Examples

① Capacity value

| | | |
|---|---|---|
| 0.1μF...104 | 4.7μF...475 | 100μF...107 |
| 0.33μF...334 | 10μF...106 | 330μF...337 |
| 1μF...105 | 22μF...226 | 1100μF...108 |
| | | 2200μF...228 |

② Working voltage

| | |
|---|---|
| 6.3V...006 | 25V...025 |
| 10V...010 | 35V...035 |
| 16V...016 | 50V...050 |

(2) DF15 --- 350, Plastic film condenser
① One-way type, Mylar ±5% 50V
Capacity value

Examples

① Capacity value

| | |
|---|---|
| 0.001μF (1000pF)...102 | 0.1μF...104 |
| 0.0018μF.....182 | 0.56μF...564 |
| 0.01μF.....103 | 1μF...105 |
| 0.015μF.....153 | |

# 9. MODEL SD385 ELECTRICAL PARTS LIST

| REF. DESIG. | PART NO. | DESCRIPTION | |
|---|---|---|---|
| | | **P100-REC/PLAY CIRCUIT BOARD** | |
| | | **P100-RESISTORS** | |
| R011 | 4822 100 10474 | 20KΩ, Trimming | |
| R012 | 4822 100 10474 | 20KΩ, Trimming | |
| R013 | 4822 100 10474 | 20KΩ, Trimming | |
| R014 | 4822 100 10512 | 100KΩ, Trimming | |
| R021 | 4822 100 10474 | 20KΩ, Trimming | |
| R022 | 4822 100 10474 | 20KΩ, Trimming | |
| R023 | 4822 100 10474 | 20KΩ, Trimming | |
| R024 | 4822 100 10512 | 100KΩ, Trimming | |
| R031 | 4822 100 10627 | 5KΩ, Trimming | |
| R032 | 4822 100 10627 | 5KΩ, Trimming | |
| R033 | 4822 100 10627 | 5KΩ, Trimming | |
| R034 | 4822 100 10627 | 5KΩ, Trimming | |
| R036 | 4822 101 30567 | 20KΩ(A)x2, Variable | |
| R316 | 4822 111 41132 | 22Ω ±5% 1W | |
| | | **P100-SEMICONDUCTORS** | |
| D301 ≀ D311 | 4822 130 31018 | Diode | 1S1555, etc. |
| D312 | 4822 130 31878 | Diode | IN4003 |
| D313 | 4822 130 31878 | Diode | IN4003 |
| D314 | 4822 130 31018 | Diode | 1S1555, etc. |
| D315 | 4822 130 31018 | Diode | 1S1555, etc. |
| D316 | 4822 130 31018 | Diode | 1S1555, etc. |
| D317 | 4822 130 31878 | Diode | IN4003 |
| D318 | 4822 130 31878 | Diode | IN4003 |
| D319 | 4822 130 31018 | Diode | 1S1555, etc. |
| D320 | 4822 130 31018 | Diode | 1S1555, etc. |
| D321 | 4822 130 31018 | Diode | 1S1555, etc. |
| ⚠D322 | 4822 130 80926 | Diode | PB153M |
| Q101 ≀ Q111 | 4822 130 43793 | Transistor | 2SC1815(GR) |
| Q113 | 4822 130 43793 | Transistor | 2SC1815(GR) |
| Q201 ≀ Q213 | 4822 130 43793 | Transistor | 2SC1815(GR) |
| Q301 ≀ Q323 | 4822 130 43793 | Transistor | 2SC1815(GR) |
| Q324 | 5322 130 41843 | Transistor | 2SC2655(Y) |
| Q325 | 5322 130 41843 | Transistor | 2SC2655(Y) |
| Q326 | 5322 130 41843 | Transistor | 2SC2655(Y) |
| Q327 | 4822 130 43226 | Transistor | 2SC2235(Y) |
| Q328 | 4822 130 43226 | Transistor | 2SC2235(Y) |
| Q329 | 4822 130 42959 | Transistor | 2SA1015(Y) |
| U301 | 4822 209 81928 | IC | μPC1228H |
| U302 | 4822 209 83067 | IC | HD14066B |
| U303 | 4822 209 72871 | IC | CX20187 |
| U304 | 4822 209 81928 | IC | μPC1228H |
| U305 | 4822 209 83706 | IC | BA335 |
| U306 | 4822 209 73303 | IC | NJM4558S |
| U307 | 4822 209 73303 | IC | NJM4558S |
| U309 | 4822 209 83066 | IC | μPC7812H |
| U310 | 4822 209 83066 | IC | μPC7812H |

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| | | **P100-MISCELLANEOUS** |
| J031 | 4822 267 20357 | Terminal, 4P; Line IN/OUT |
| J032 | 4822 267 30959 | Jack, Headphone |
| L101 | 4822 157 53559 | L.C. Filter, 100KHz |
| L102 | 4822 157 53561 | L.C. Filter, MPX |
| L103 | 4822 157 53562 | L.C. Filter, 19.8KHz |
| L104 | 4822 157 53563 | L.C. Filter, 100KHz |
| L105 | 4822 157 53565 | Choke Coil, 8.2mH |
| L201 | 4822 157 53559 | L.C. Filter, 100KΩ |
| L202 | 4822 157 53561 | L.C. Filter, MPX |
| L203 | 4822 157 53562 | L.C. Filter, 19.8KHz |
| L204 | 4822 157 53563 | L.C. Filter, 100KHz |
| L205 | 4822 157 53565 | Choke Coil, 8.2mH |
| L301 | 4822 157 53567 | OSC Transformer, 100KHz |
| L302 | 4822 157 53564 | Choke Coil, 1.2mH |
| S031 | 4822 277 21242 | Slide Switch, Rec/Play |
| S032 | 4822 276 12451 | Push Switch |
| | | **P400-METER CIRCUIT BOARD** |
| R035 | 4822 105 10995 | Variable Resistor 50KΩ(A)x2 |
| D401 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D402 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D403 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D404 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D405 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D406 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D501 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D502 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D503 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D504 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D505 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D506 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D601 | 4822 130 80935 | L.E.D. LTL-4232-031A |
| D602 | 4822 130 80935 | L.E.D. LTL-4232-031A |
| D603 | 4822 130 80936 | L.E.D. LTL-4232-031A |
| U401 | 4822 209 73302 | IC BA6124 |
| U501 | 4822 209 73302 | IC BA6124 |
| | | **P600-DIRECTION LED-A CIRCUIT BOARD** |
| D604 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D605 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| | | **P650-DIRECTION LED-B CIRCUIT BOARD** |
| D606 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D607 | 4822 130 80933 | L.E.D. LTL-307GE-031A |

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| | | **P700-POWER SWITCH CIRCUIT BOARD** |
| S033 | 4822 276 12449 | Push Switch, Power |
| ⚠C325 | 4822 124 41609 | Ceramic Cap. 0.047μF |
| | | **P800-VOLTAGE SELECTOR CIRCUIT BOARD [E]** |
| ⚠J801 | 4822 266 30212 | Voltage Selector [E] |

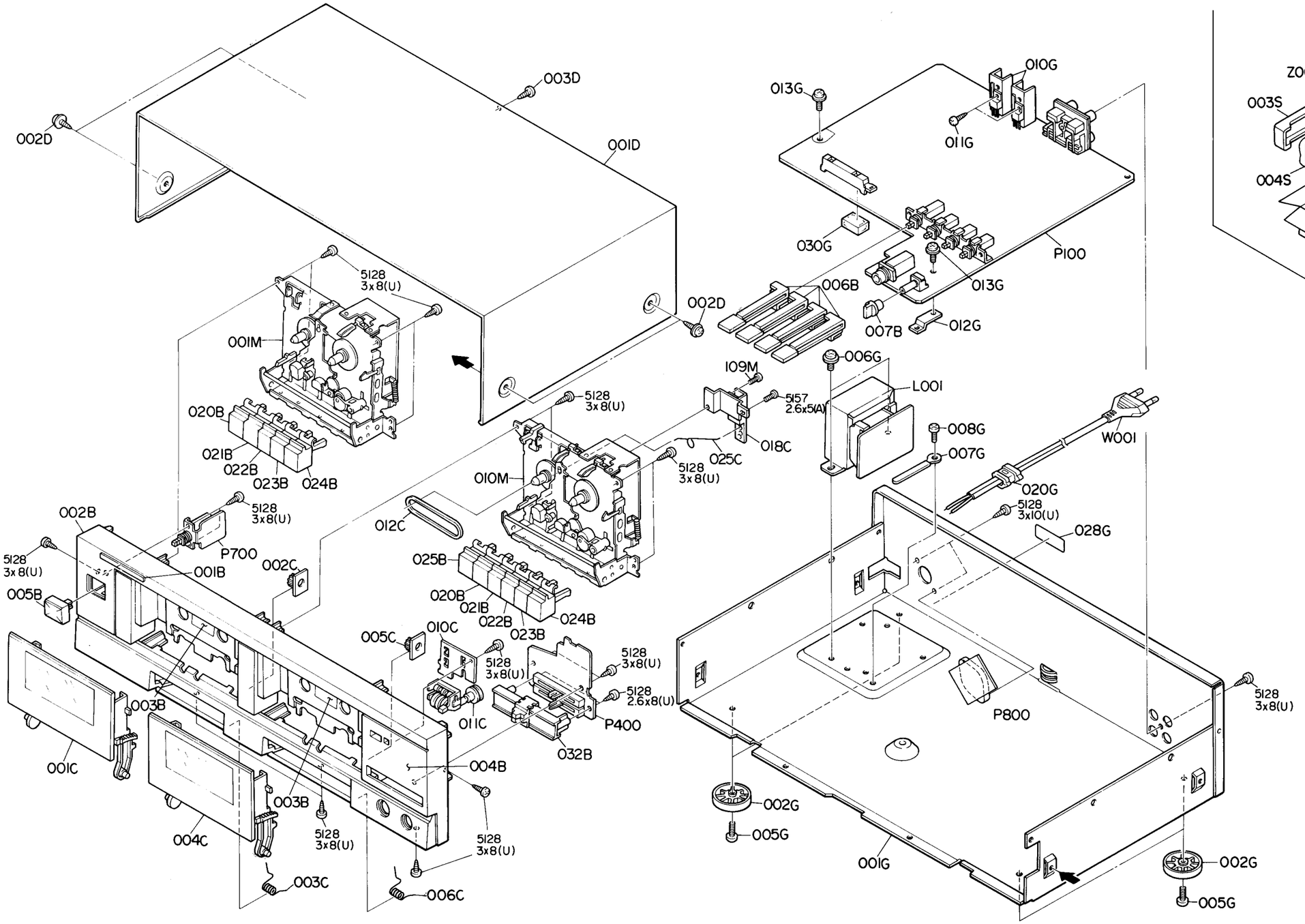
| | |
|---|---|
| (W01-99) | Assembly and Wiring |
| (T01-99) | Adjustment |
| (X01-00) | Correction |

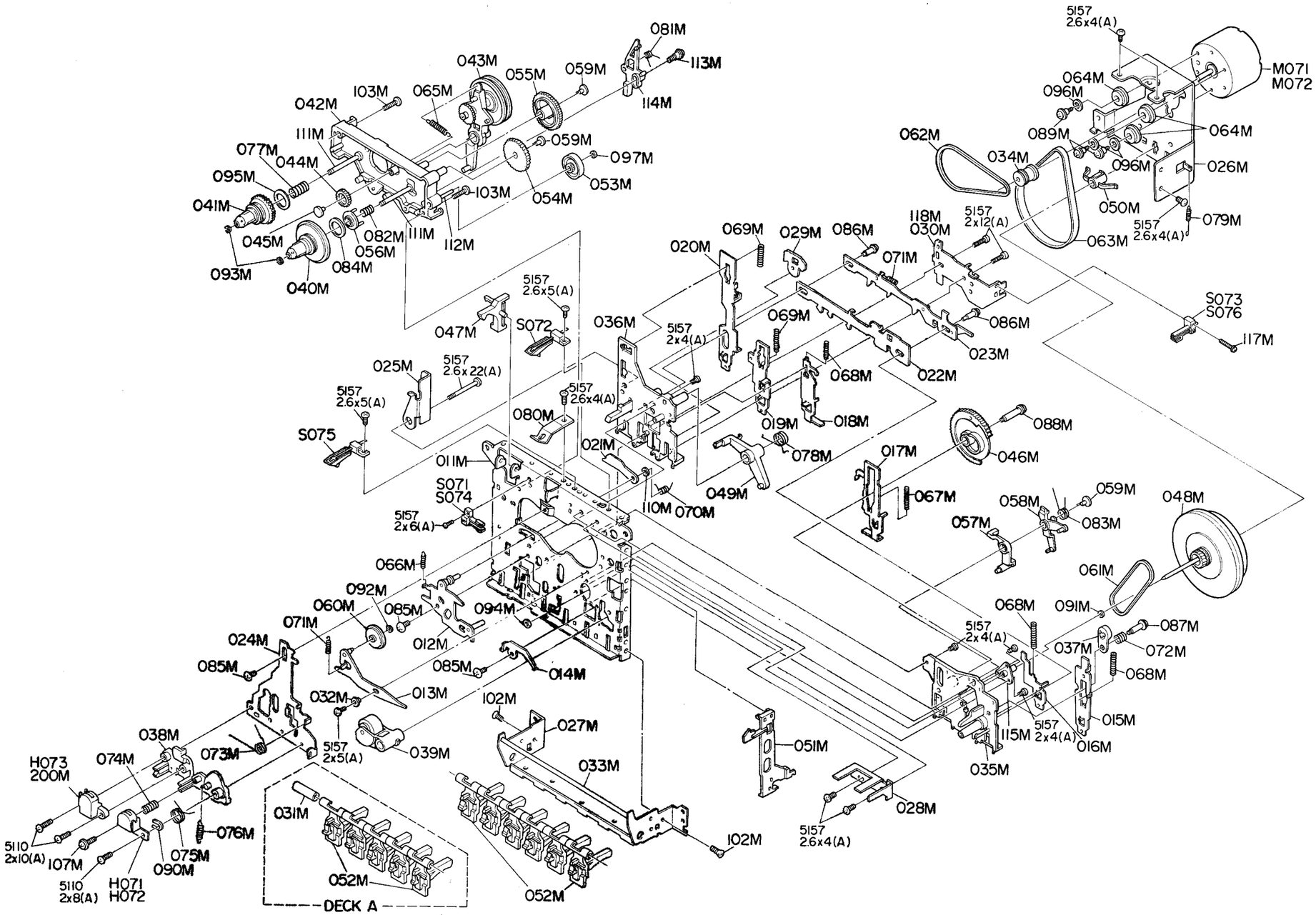
**NOTE ON SAFETY:**
**Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.**

# 10. MODEL SD285 EXPLODED VIEWS AND PARTS LIST

**[C01-99] FRONT PANEL, LID (TOP & BOTTOM COVER), GENERAL PARTS AND PACKING MATERIALS**

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 001B | 4822 454 11825 | Badge, Marantz |
| 002B | 4822 443 40664 | Front Panel |
| 003B | 4822 380 20314 | Reflector, Cassette |
| 004B | 4822 347 20113 | Indicator |
| 005B | 4822 410 26587 | Button, Power |
| 006B | 4822 410 26588 | Button, Push |
| 007B | 4822 413 41446 | Knob, Level |
| 020B | 4822 410 26573 | Button, PLAY |
| 021B | 4822 410 26574 | Button, REW |
| 022B | 4822 410 26575 | Button, FF |
| 023B | 4822 410 26576 | Button, STOP/EJECT |
| 024B | 4822 410 26577 | Button, PAUSE |
| 025B | 4822 410 26578 | Button, REC; Deck B |
| 032B | 4822 462 30395 | Rail, Assembly, Volume |
| 001C | 4822 443 51129 | Case, Cassette; Deck A |
| 002C | 4822 529 10212 | Dumper, Deck A |
| 003C | 4822 492 42275 | Spring, Case Open; Deck A |
| 004C | 4822 443 51131 | Case, Cassette; Deck B |
| 005C | 4822 529 10212 | Dumper, Deck B |
| 006C | 4822 492 42275 | Spring, Case Open; Deck B |
| 011C | 4822 349 50325 | Counter, Tape |
| 012C | 4822 358 30851 | Belt, Counter |
| 025C | 4822 402 61206 | Link, Rec Arm; Deck B |
| 001D | 4822 443 62498 | Lid, Top Cover |
| 002D | 4822 502 13115 | Fin Neck B.T. Screw M3 x 6 |
| 003D | 4822 502 13114 | Screw |
| 002G | 4822 462 41269 | Leg (K) |
| 005G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 006G | 4822 502 13117 | Fin Neck B.T. Screw M4 x 6 |
| 008G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 011G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 013G | 4822 502 30539 | B. Taptite Screw B3 x 6 |
| 020G | 4822 265 20396 | Bushing, AC Cord |
| 109M | 4822 502 30537 | B.T. Screw B2.6 x 6 |
| ⚠ L001 | 4822 146 30712 | Power Transformer [N, A, T] |
| | 4822 146 21342 | Power Transformer [E] |
| ⚠W001 | 4822 321 10568 | A.C. Power Cord [N, E] |
| | | **PACKING** |
| 001T | 4822 736 13991 | User Manual |
| Z001 | 4822 321 22886 | Connective Cord |


002D
003D
001D
013G
010G
011G
030G
P100
006B
007B
012G
013G
006G
L001
109M
5157
2.6x5(A)
018C
025C
008G
007G
W001
020G
5128
3x10(U)
028G
P800
002G
005G
001G
5128
3x8(U)
001M
020B
021B
022B
023B
024B
010M
012C
025B
002B
P700
002C
001B
005B
003B
001C
004C
003C
005C
010C
011C
P400
032B
004B
006C
Z001
001T
005T
007T
003S
004S
001S
002S


081M
113M
043M
055M
059M
114M
103M
065M
042M
111M
059M
077M
044M
097M
095M
053M
041M
103M
054M
045M
082M
111M
056M
112M
084M
093M
040M
5157 2.6x4(A)
M071
M072
064M
096M
062M
089M
064M
034M
096M
026M
050M
063M
5157 2x12(A)
5157 2.6x4(A)
079M
118M
030M
069M
029M
086M
020M
071M
5157 2.6x5(A)
S073
S076
047M
S072
036M
5157 2x4(A)
069M
086M
117M
025M
5157 2.6x22(A)
068M
023M
022M
5157 2.6x5(A)
5157 2.6x4(A)
080M
019M
018M
088M
S075
021M
078M
017M
011M
046M
S071
S074
049M
067M
110M
070M
058M
059M
048M
5157 2x6(A)
057M
083M
066M
061M
092M
060M
085M
094M
068M
091M
087M
071M
5157 2x4(A)
024M
012M
037M
072M
085M
085M
014M
068M
032M
013M
102M
027M
015M
038M
039M
115M
5157 2x4(A)
073M
033M
016M
H073
200M
074M
051M
035M
031M
028M
5157 2.6x4(A)
076M
102M
5110 2x10(A)
107M
075M
090M
052M
052M
5110 2x8(A)
H071
H072
DECK A

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 034M | 4822 528 81229 | Pulley, Motor |
| 035M | 4822 402 61203 | Holder (A), Lever |
| 036M | 4822 402 61204 | Holder (B), Lever |
| 038M | 4822 466 92261 | Base Board, Head |
| 039M | 4822 528 70535 | Pinch Roller Assembly |
| 040M | 4822 528 10707 | Reel Assembly, Tension |
| 041M | 4822 528 10708 | Reel Assembly, Supply |
| 042M | 4822 466 92262 | Base Board, Reel |
| 043M | 4822 402 61201 | Arm Assembly, Clutch |
| 044M | 4822 522 32474 | Gear, FF |
| 045M | 4822 532 11663 | Bushing, FF Gear |
| 046M | 4822 522 32475 | Gear (C) |
| 047M | 4822 528 30345 | Cam, Rec Sensor; Deck B |
| 048M | 4822 528 60337 | Flywheel Assembly (Y) |
| 049M | 4822 402 61199 | Arm, Lock |
| 050M | 4822 256 91326 | Holder, Capstan |
| 052M | 4822 402 61205 | Lever, Button |
| 053M | 4822 528 70536 | Pulley, Auto |
| 054M | 4822 522 32476 | Gear, Auto |
| 055M | 4822 522 32477 | Gear, Auto Cam |
| 056M | 4822 528 20618 | Clutch, Auto |
| 057M | 4822 403 53468 | Arm (B), Auto |
| 058M | 4822 403 53469 | Arm, Auto Lock |
| 059M | 4822 532 52034 | Bushing |
| 060M | 4822 528 70537 | Idler, Play |
| 061M | 4822 358 30847 | Belt, Auto |
| 062M | 4822 358 30848 | Belt, FR |
| 063M | 4822 358 30849 | Belt, Drive |
| 064M | 4822 532 52035 | Bushing |
| 065M | 4822 492 51996 | Spring, Clutch Arm |
| 066M | 4822 492 51997 | Spring, Shift Arm |
| 067M | 4822 492 51998 | Spring, FF Lever |
| 068M | 4822 492 51999 | Spring, REW/Pause/Stop Lever |
| 069M | 4822 492 52001 | Spring, Play/Rec Lever |
| 070M | 4822 492 51995 | Spring, Rec Lever; Deck B |
| 071M | 4822 492 52002 | Spring, Cam/Idler |
| 072M | 4822 492 52003 | Spring, Pause Cam |
| 073M | 4822 492 52004 | Spring, Head Chassis |
| 074M | 4822 492 52005 | Spring, Head |
| 075M | 4822 492 52006 | Spring, Pinch Roller |
| 076M | 4822 492 52007 | Spring, Head Chassis Return |
| 077M | 4822 492 32885 | Spring, Back Tension |
| 078M | 4822 492 52008 | Spring, Lock Arm |
| 079M | 4822 492 52009 | Spring, Eject Lever |
| 080M | 4822 492 63996 | Leaf Spring, Pack |
| 081M | 4822 492 52011 | Spring, Auto Sensor |
| 082M | 4822 492 52012 | Spring, Auto Clutch |
| 083M | 4822 492 52013 | Spring, Auto Lock Arm |
| 084M | 4822 528 20619 | Clutch, Auto |
| 085M | 4822 502 13091 | Screw (A) |
| 086M | 4822 502 13092 | Screw (B) |
| 087M | 4822 502 13093 | Screw (C) |
| 088M | 4822 502 13094 | Screw (D) |
| 089M | 4822 502 13095 | Screw, Motor |
| 090M | 4822 532 52033 | Spacer, Head |
| 091M | 4822 532 52025 | Washer, Flywheel |
| 092M | 4822 532 52026 | Washer, Play Idler |
| 093M | 4822 532 52027 | Washer, Reel |
| 094M | 4822 532 52028 | Washer, Flywheel |
| 095M | 4822 532 52029 | Washer, Supply Reel |

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 096M | 4822 532 52031 | Washer, Motor |
| 097M | 4822 532 52032 | Washer, Auto Pulley |
| 102M | 4822 502 13112 | F. Taptite Screw F2.6 x 5 |
| 103M | 4822 502 13113 | B. Taptite Screw B2.6 x 8 |
| 107M | 4822 502 13102 | Cup Screw M2 x 9 |
| 109M | 4822 502 30537 | B.T. Screw B2.6 x 6 |
| 110M | 4822 530 70122 | RG Ring, E Type $\phi$2; Deck B |
| 111M | 4822 535 92491 | Shaft, Reel |
| 112M | 4822 535 92492 | Shaft, Auto Pulley |
| 113M | 4822 535 92493 | Shaft, Auto Sensor Arm |
| 114M | 4822 403 53471 | Arm, Auto Sensor |
| 117M | 4822 403 53473 | B. Taptite Screw B2.6 x 10 |
| 118M | 4822 403 53472 | Bracket, Solenoid; Deck A |
| 200M | 4822 466 92263 | Guide, Dummy Head; Deck A |
| H071 | 4822 249 30135 | Head, Playback; Deck A |
| H072 | 4822 249 10367 | Head, Rec/Play; Deck B |
| H073 | 4822 249 40244 | Head, Erase; Deck B |
| M071 | 4822 361 21137 | D.C. Motor, Deck A |
| M072 | 4822 361 21138 | D.C. Motor, Deck B |
| S071 | 4822 278 90583 | Mini Switch, Leaf; Deck A |
| S072 | 4822 278 90584 | Mini Switch, Leaf; Deck A |
| S073 | 4822 278 90585 | Mini Switch, Leaf; Deck A |
| S074 | 4822 278 90583 | Mini Switch, Leaf; Deck B |
| S075 | 4822 278 90584 | Mini Switch, Leaf; Deck B |
| S076 | 4822 278 90585 | Mini Switch, Leaf; Deck B |

## ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05---140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05---160, Carbon film fixed resistor, ±5%, 1/6W
① — Resistance value

Examples
① Resistance value

| | | | |
|---|---|---|---|
| 0.1Ω...001 | 10Ω...100 | 1kΩ...102 | 100kΩ...104 |
| 0.5Ω...005 | 18Ω...180 | 2.7kΩ...272 | 680kΩ...684 |
| 1Ω...010 | 100Ω...101 | 10kΩ...103 | 1MkΩ...105 |
| 6.8Ω...068 | 390Ω...391 | 22kΩ...223 | 4.7MkΩ...475 |

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C***: CERAMIC CAP.
(1) DD1---370, Ceramic condenser
Disc type
①② Temp. coeff. P350 ~ N1000, 50V
Capacity value
Tolerance

Examples
① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5
* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±5%
② Capacity value

| | | |
|---|---|---|
| 0.5pF...005 | 3pF...030 | 100pF...101 |
| 1pF...010 | 10pF...100 | 220pF...221 |
| 1.5pF...015 | 47pF...470 | 560pF...561 |

C***: CERAMIC CAP.
(1) DK16---300, High dielectric constant ceramic condenser
Disc type
① Temp. chara. 2B4, 50V
Capacity value

Example
② Capacity value

| | | |
|---|---|---|
| 10Opf...101 | 1000pF...102 | 10000pF...103 |
| 47Opf...471 | 2200pF...222 | |

C***: ELECTROLY CAP. ( ⧧ ), FILM CAP. ( ⧦ )
(1) EA------10, Electrolytic condenser
One-way lead type, Tolerance ±20%
①② Dielectric strength
Capacity value

Examples
① Capacity value

| | | |
|---|---|---|
| 0.1μF...104 | 4.7μF...475 | 100μF...107 |
| 0.33μF...334 | 10μF...106 | 330μF...337 |
| 1μF...105 | 22μF...226 | 1100μF...108 |
| | | 2200μF...228 |

② Working voltage

| | | |
|---|---|---|
| 6.3V...006 | 25V...025 | |
| 10V...010 | 35V...035 | |
| 16V...016 | 50V...050 | |

(2) DF15---350, Plastic film condenser
One-way type, Mylar ±5% 50V
① Capacity value

Examples
① Capacity value

| | |
|---|---|
| 0.001μF (1000pF)...102 | 0.1μF...104 |
| 0.0018μF.....182 | 0.56μF...564 |
| 0.01μF.....103 | 1μF...105 |
| 0.015μF.....153 | |

# 11. MODEL SD285 ELECTRICAL PARTS LIST

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| | | **P100-REC/PLAY CIRCUIT BOARD** |
| | | **P100-RESISTORS** |
| R011 | 4822 100 10474 | 20KΩ, Trimming |
| R012 | 4822 100 10474 | 20KΩ, Trimming |
| R013 | 4822 100 10474 | 20KΩ, Trimming |
| R014 | 4822 100 10512 | 100KΩ, Trimming |
| R021 | 4822 100 10474 | 20KΩ, Trimming |
| R022 | 4822 100 10474 | 20KΩ, Trimming |
| R023 | 4822 100 10474 | 20KΩ, Trimming |
| R024 | 4822 100 10512 | 100KΩ, Trimming |
| R031 | 4822 100 20191 | 2KΩ, Trimming |
| R032 | 4822 100 20191 | 2KΩ, Trimming |
| R033 | 4822 100 20191 | 2KΩ, Trimming |
| R034 | 4822 100 20191 | 2KΩ, Trimming |
| R036 | 4822 101 30567 | 20KΩ(A)x2, Variable |
| | | **P100-SEMICONDUCTORS** |
| D301 | 4822 130 31018 | Diode 1S1555, etc. |
| D302 | 4822 130 31018 | Diode 1S1555, etc. |
| D304 | 4822 130 31018 | Diode 1S1555, etc. |
| D307 ~ D311 | 4822 130 31018 | Diode 1S1555, etc. |
| D312 | 4822 130 31878 | Diode IN4003 |
| D316 | 4822 130 31018 | Diode 1S1555, etc. |
| D317 | 4822 130 31878 | Diode IN4003 |
| D318 | 4822 130 31878 | Diode IN4003 |
| D319 | 4822 130 31018 | Diode 1S1555, etc. |
| D320 | 4822 130 31018 | Diode 1S1555, etc. |
| D321 | 4822 130 31018 | Diode 1S1555, etc. |
| ⚠ D322 | 4822 130 80926 | Diode PB153M |
| Q101 ~ Q113 | 4822 130 43793 | Transistor 2SC1815(GR) |
| Q201 ~ Q213 | 4822 130 43793 | Transistor 2SC1815(GR) |
| Q301 ~ Q306 | 4822 130 43793 | Transistor 2SC1815(GR) |
| Q309 ~ Q323 | 4822 130 43793 | Transistor 2SC1815(GR) |
| Q324 | 4822 130 41843 | Transistor 2SC2655(Y) |
| Q325 | 4822 130 41843 | Transistor 2SC2655(Y) |
| Q327 | 4822 130 43226 | Transistor 2SC2235(Y) |
| Q328 | 4822 130 43226 | Transistor 2SC2235(Y) |
| Q329 | 4822 130 42959 | Transistor 2SA1015(Y) |
| U301 | 4822 209 81928 | IC μPC1228H |
| U302 | 4822 209 83067 | IC HD14066B |
| U303 | 4822 209 72871 | IC CX20187 |
| U304 | 4822 209 81928 | IC μPC1228H |
| U306 | 4822 209 73303 | IC NJM4558S |
| U307 | 4822 209 73303 | IC NJM4558S |
| ⚠ U309 | 4822 209 83066 | IC μPC7812H |
| ⚠ U310 | 4822 209 83066 | IC μPC7812H |

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| | | **P100-MISCELLANEOUS** |
| J031 | 4822 267 20357 | Terminal, 4P; Line IN/OUT |
| J032 | 4822 267 30959 | Jack, Headphone |
| L101 | 4822 157 53559 | L.C. Filter, 100KHz |
| L102 | 4822 157 53558 | L.C. Filter, MPX |
| L103 | 4822 157 53562 | L.C. Filter, 19.8KHz |
| L104 | 4822 157 53563 | L.C. Filter, 100KHz |
| L105 | 4822 157 53565 | Choke Coil, 8.2mH |
| L201 | 4822 157 53559 | L.C. Filter, 100KΩ |
| L202 | 4822 157 53558 | L.C. Filter, MPX |
| L203 | 4822 157 53562 | L.C. Filter, 19.8KHz |
| L204 | 4822 157 53563 | L.C. Filter, 100KHz |
| L205 | 4822 157 53565 | Choke Coil, 8.2mH |
| L301 | 4822 157 53555 | OSC Transformer, 100KHz |
| L302 | 4822 157 53564 | Choke Coil, 1.2mH |
| S031 | 4822 277 21242 | Slide Switch, Rec/Play |
| S032 | 4822 276 12451 | Push Switch |
| | | **P400-METER CIRCUIT BOARD** |
| R035 | 4822 105 10995 | Variable Resistor 50KΩ(A)x2 |
| D401 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D402 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D403 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D404 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D405 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D406 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D501 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D502 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D503 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D504 | 4822 130 80933 | L.E.D. LTL-307GE-031A |
| D505 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D506 | 4822 130 80934 | L.E.D. LTL-307EE-031A |
| D601 | 4822 130 80935 | L.E.D. LTL-4232-031A |
| D602 | 4822 130 80935 | L.E.D. LTL-4232-031A |
| D603 | 4822 130 80936 | L.E.D. LTL-4222-031A |
| U401 | 4822 209 73302 | IC BA6124 |
| U501 | 4822 209 73302 | IC BA6124 |
| | | **P700-POWER SWITCH CIRCUIT BOARD** |
| ⚠C325 | 4822 124 41609 | Ceramic Cap. 0.047μF 50V |
| ⚠S033 | 4822 276 12449 | Push Switch, Power |
| | | **P800-VOLTAGE SELECTOR CIRCUIT BOARD [E]** |
| J801 | 4822 266 30212 | Voltage Selector [E] |

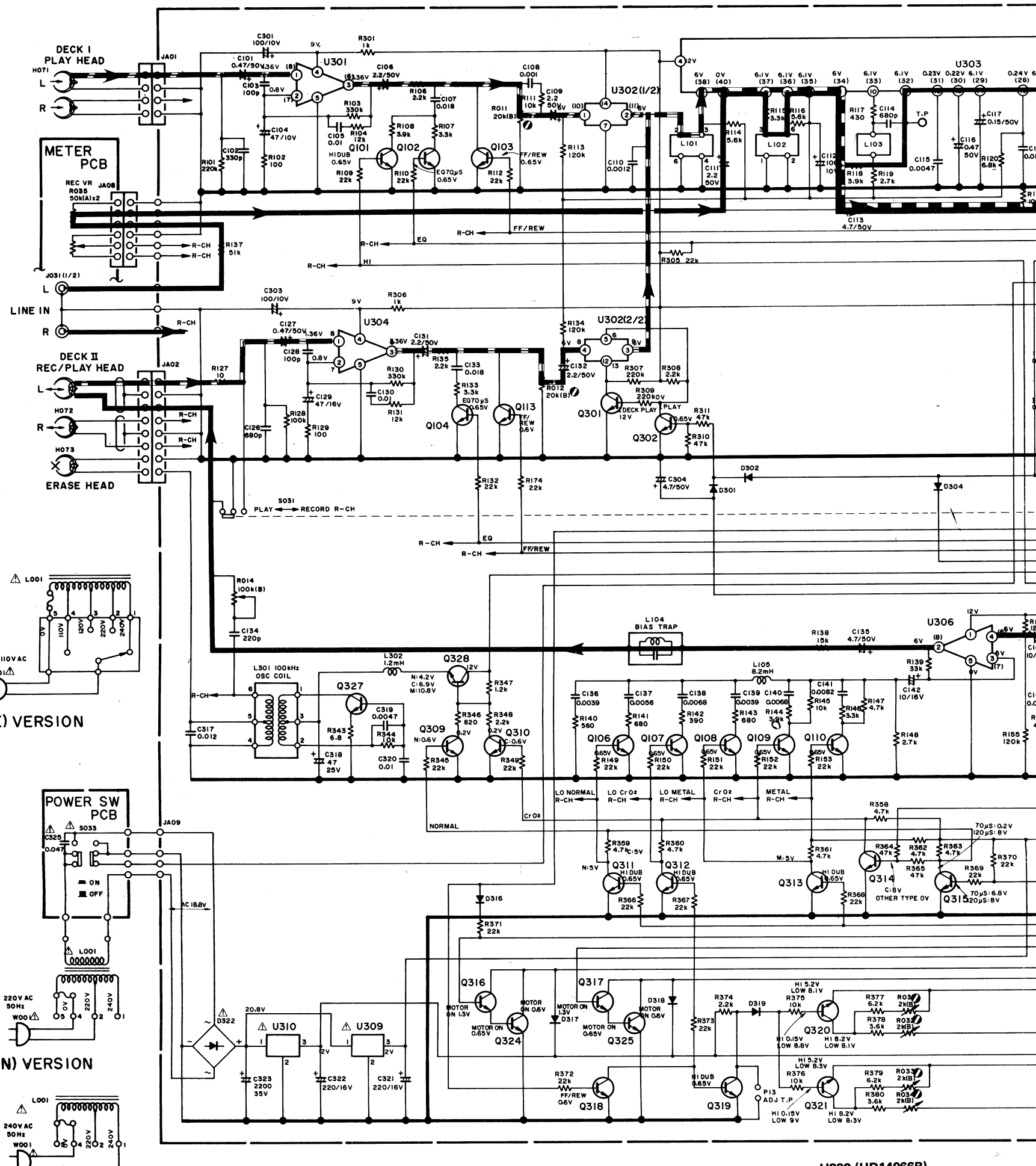
| | |
|---|---|
| **(W01-99)** | **Assembly and Wiring** |
| **(T01-99)** | **Adjustment** |
| **(X01-00)** | **Correction** |

**NOTE ON SAFETY:**
**Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.**

# 12. TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Type | Dual Dubbing |
| Tape Drive System | Single Capstan Drive |
| Tape Type | Philips type compact cassette |
| Track System | 4-track 2-channel |
| Tape Speed | 1-7/8 ips |
| **Heads** | |
| Tape A | 1 Head System |
| Playback | Permalloy |
| Tape B | 2 Head System |
| Record/Playback | Permalloy |
| Erase | Dual Gap Ferrite |
| Wow and Flutter (WRMS, 1-7/8 ips) | 0.03% |
| **Frequency Response (Overall -25 dB below Dolby Level ±3 dB):** | |
| Normal Tape | 35 Hz ~ 14 kHz |
| $CrO_2$ Tape | 35 Hz ~ 15 kHz |
| Metal Tape | 35 Hz ~ 16 kHz |
| **Signal-to-Noise Ratio** | |
| NR OFF | 52 dB |
| With Dolby B NR | 60 dB |
| With Dolby C NR | 68 dB |
| **Output Level/Impedance** | |
| Line | 600 mV/2.5 k ohms |
| Headphone | 80 mV/40 k ohms |
| **Input Sensitivity/Impedance** | |
| Line | 70 mV/75 k ohms |
| Microphone | 0.8 mV/4.7 k ohms |
| **GENERAL** | |
| Power Requirements | 120 V AC, 60 Hz |
| **Dimensions (includes feet and knobs):** | |
| Width | 16-1/2 inches (420 mm) |
| Height | 5 inches (128 mm) |
| Depth | 10-1/2 inches (268 mm) |
| **Weight** | |
| Unit Alone | 10.5 lb. (4.8 kg) |

# SCHEMATIC DIAGRAM




(E) VERSION

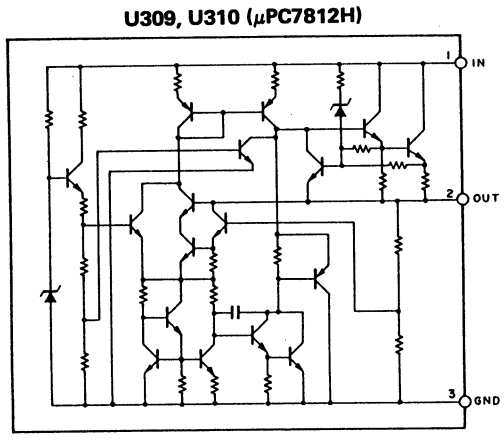
(U) VERSION

(N) VERSION

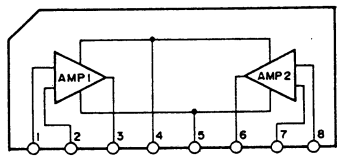
(F) VERSION

(A/T) VERSION

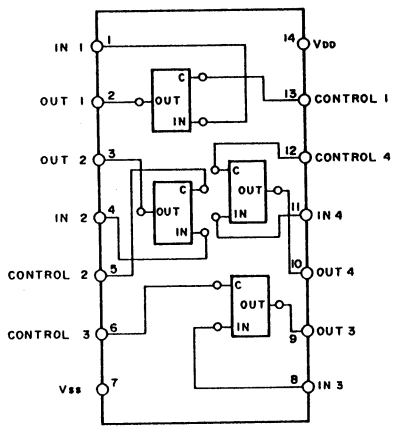
**U309, U310 (μPC7812H)**

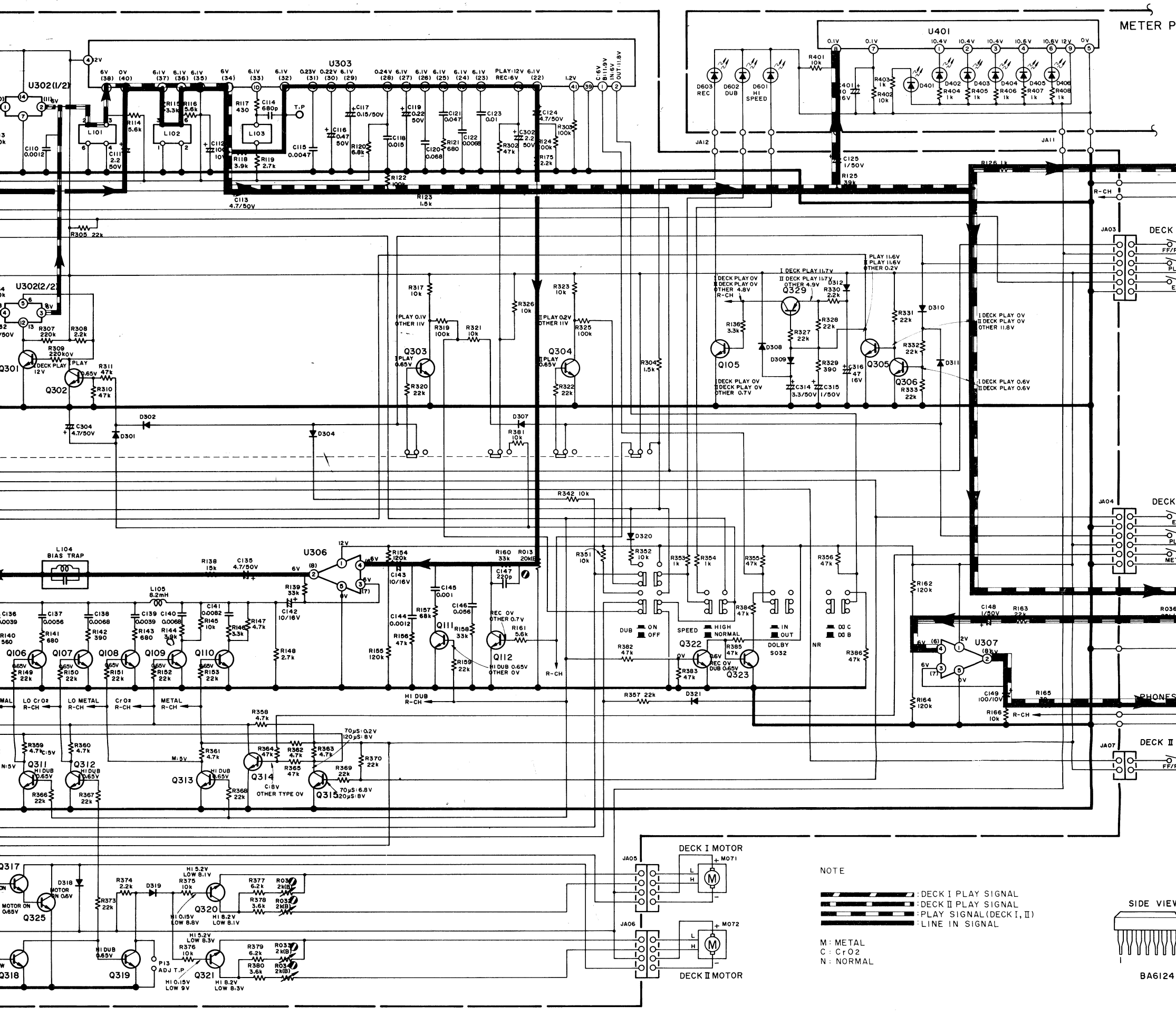



**U301, U304 (μPC1228H)**

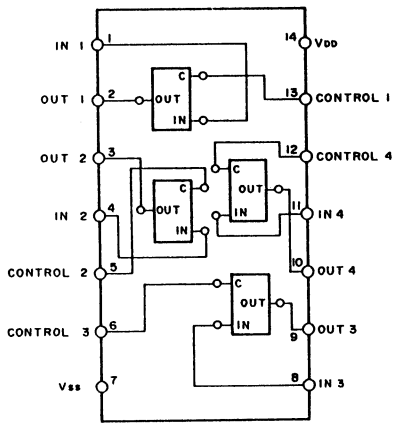



**U302 (HD14066B)**

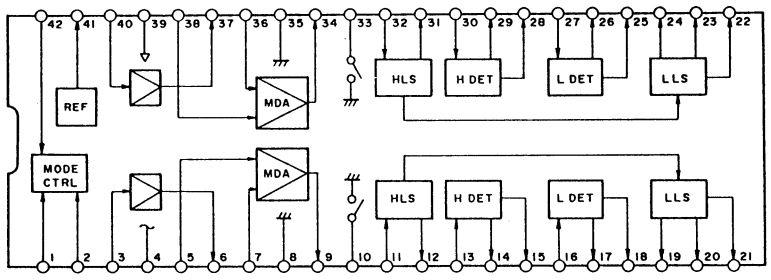




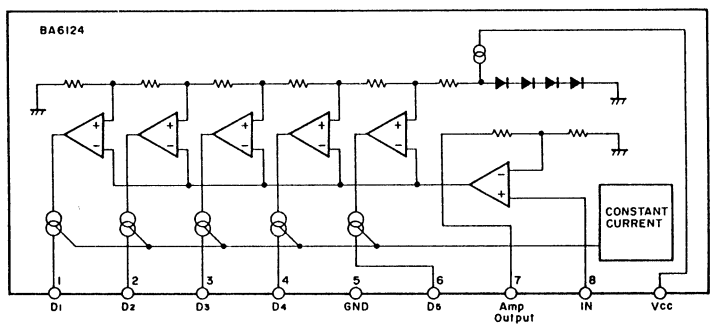

**U302 (HD14066B)**



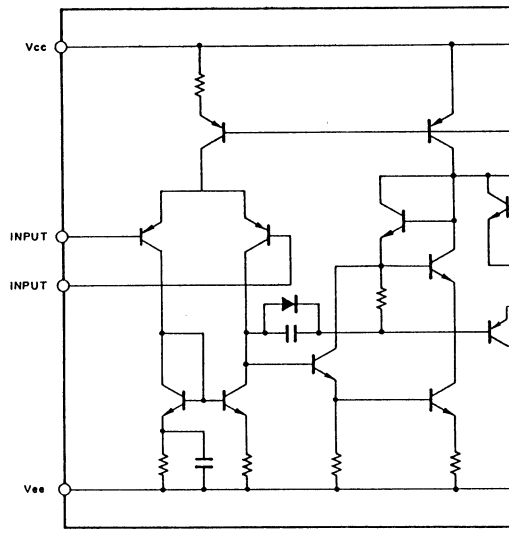

**U303 (CX20187)**




**U401, U501 (BA6124)**




**U306, U307 (NJM4**



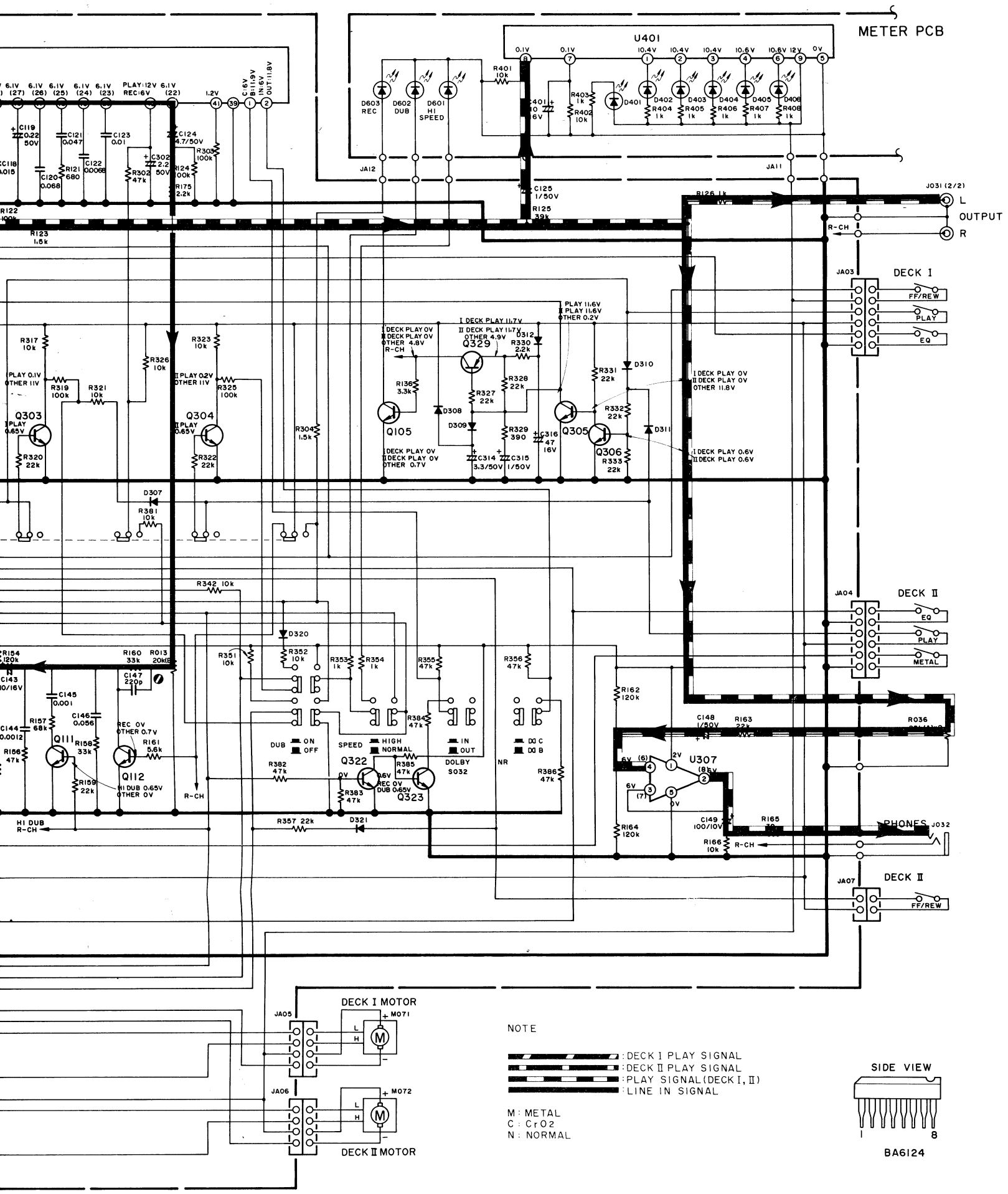

**NOTE:**
**The circuit diagrams show only the Left chan channel is omitted.**
**The symbol numbers of the Right channel are se the Left channel with the relationship as shown be (The following examples show the symbol names c**

| L CH | R CH |
|---|---|
| R010- | R020- |
| R101- | R201- |
| R401- | R501- |

**NOTE ON SAFETY:**
**Symbol ⚠ Fire or electrical shock hazard. Only original partrs should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.**

**Components and wiring are subject to change for modi**

# MODEL SD285

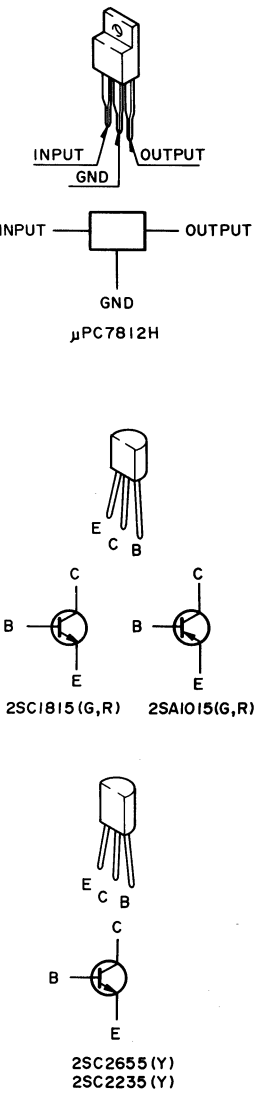



NOTE

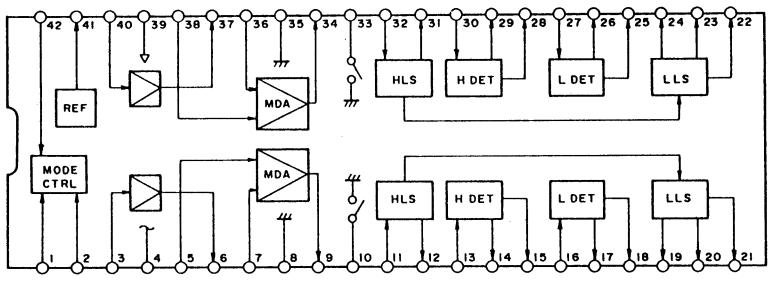
: DECK I PLAY SIGNAL
: DECK II PLAY SIGNAL
: PLAY SIGNAL (DECK I, II)
: LINE IN SIGNAL

M : METAL
C : CrO2
N : NORMAL

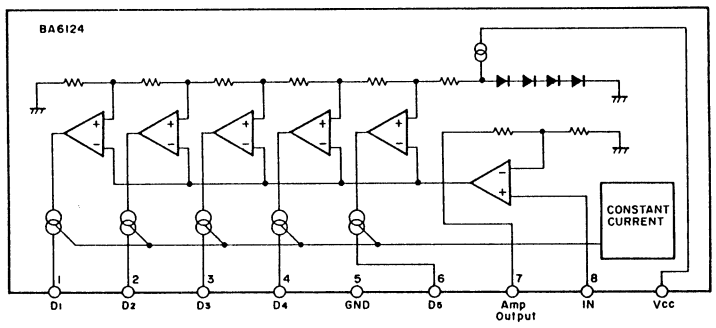
| | |
|---|---|
| U301,U304 | D301,D302,D304 D307~D311,D316 D319~D321 |
| μPC1288H | |
| | IS1555 etc. |
| U302 | |
| TC-4066BP | D312,D317,D318 |
| | IN4003 |
| U303 | |
| CX20187 | D322 |
| | PB153M |
| U306,U307 | |
| NJM4558S | D401~D404,D501~D504 |
| | LTL-307GE-031A |
| U309,U310 | |
| μPC7812H | D405,D406,D505,D506 |
| | LTL-307EE-031A |
| U401,U501 | |
| BA6124 | D601,D602 |
| | LTL-4232-031A |
| Q101~Q113 Q201~Q213 Q301~Q306 Q309 Q323 | D603 |
| | LTL-4222-031A |
| 2SC1815(G,R) | |
| Q324,Q325 | |
| 2SC2655(Y) | |
| Q327,Q328 | |
| 2SC2235(Y) | |
| Q329 | |
| 2SA1015(G,R) | |



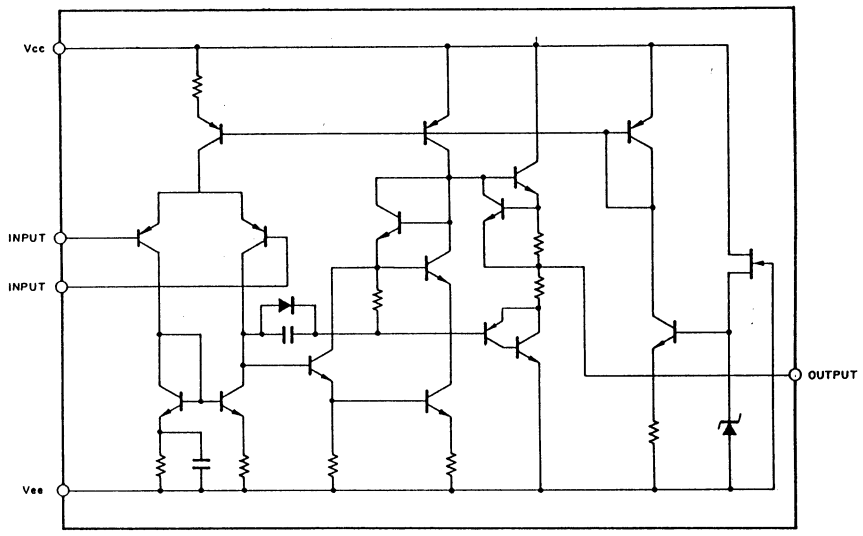

## U303 (CX20187)




## U401, U501 (BA6124)




## U306, U307 (NJM4558S)



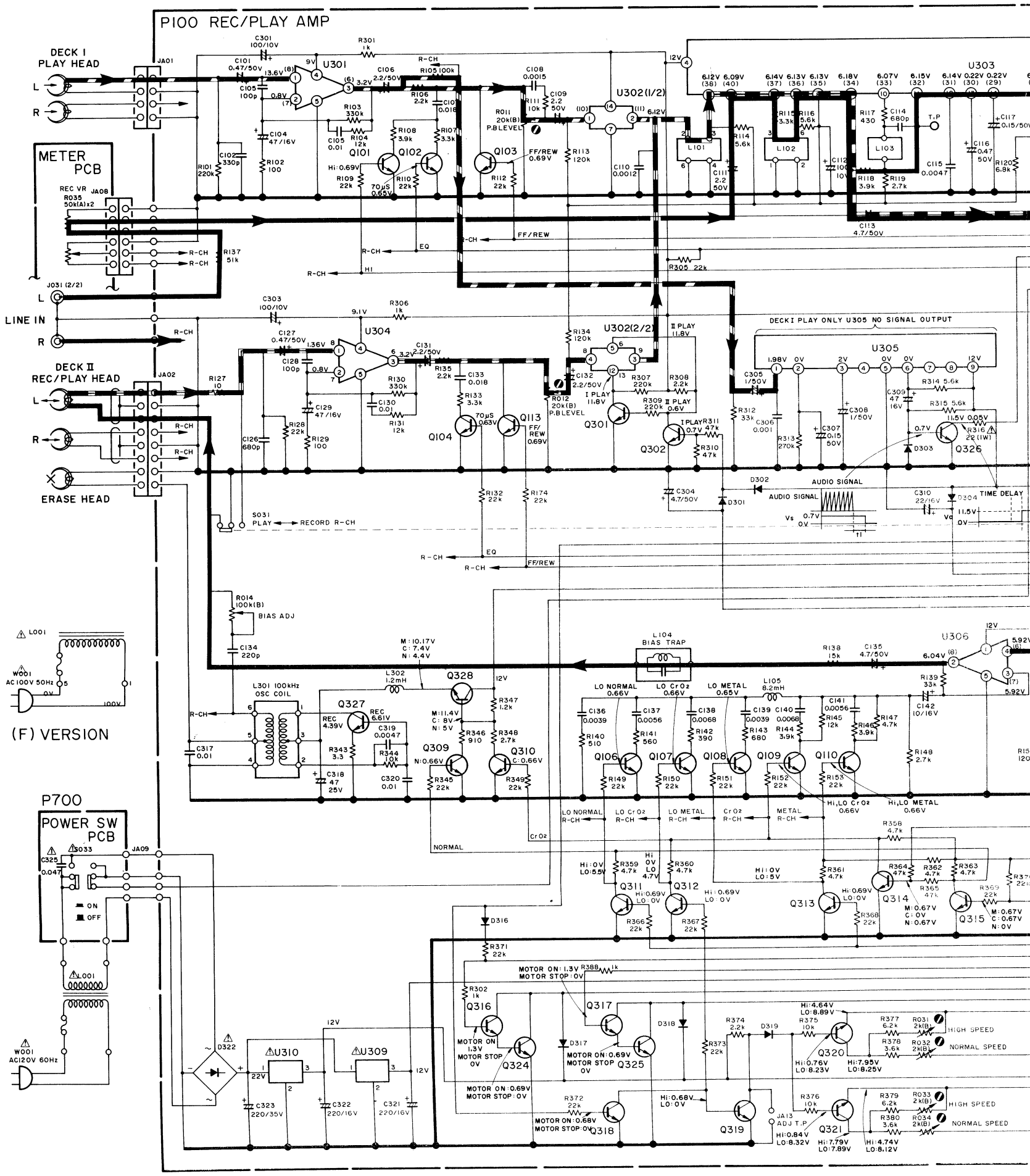

**NOTE:**
**The circuit diagrams show only the Left channel, and the Right channel is omitted.**
**The symbol numbers of the Right channel are set based on those of the Left channel with the relationship as shown below.**
**(The following examples show the symbol names of resistors.)**

| L CH | R CH |
|---|---|
| R010- | R020- |
| R101- | R201- |
| R401- | R501- |

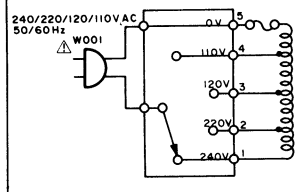
**NOTE ON SAFETY:**
**Symbol ⚠ Fire or electrical shock hazard. Only original partrs should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.**

**Components and wiring are subject to change for modification without notice.**

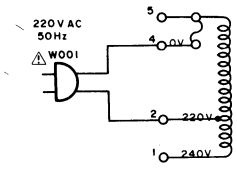
# SCHEMATIC DIAGRAM



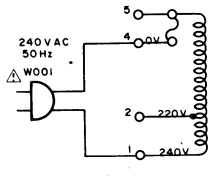

## (E) VERSION




## (N) VERSION




## (A/T) VERSION

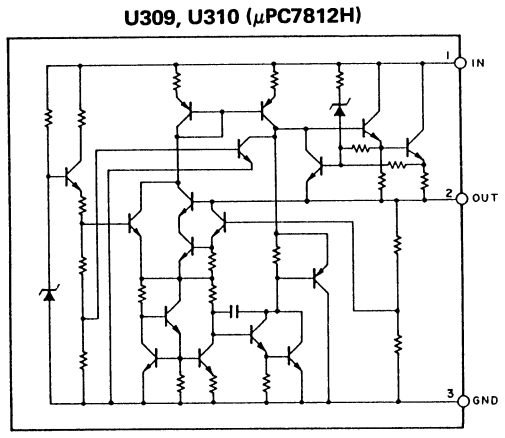




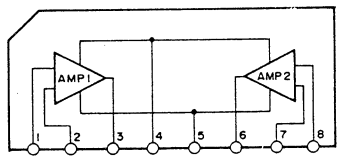


(F) VERSION

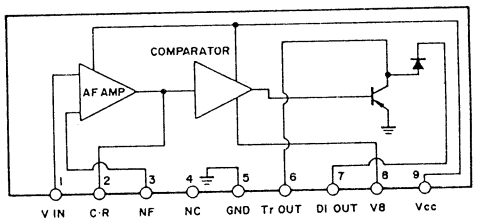
## U309, U310 (μPC7812H)



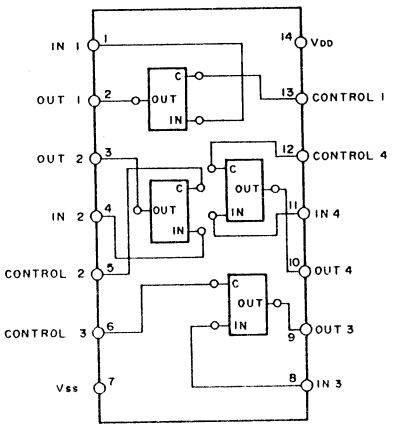

## U301, U304 (μPC1228H)



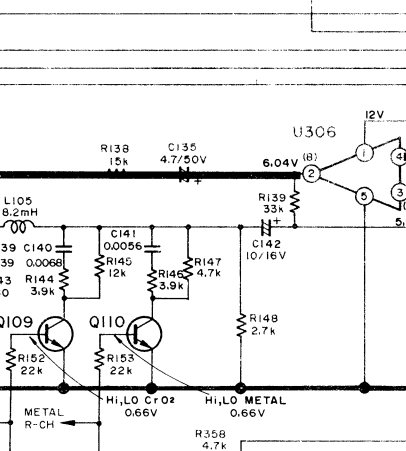

## U305 (BA335)



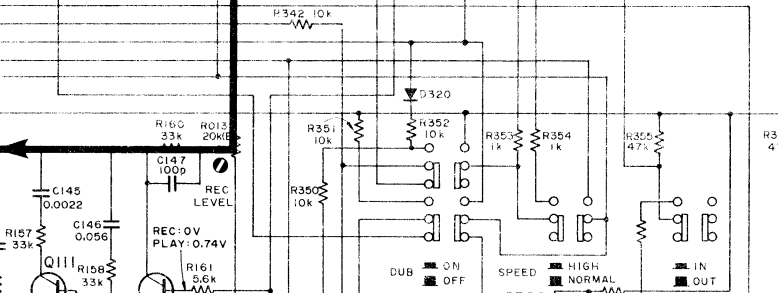

## U302 (HD14066B)



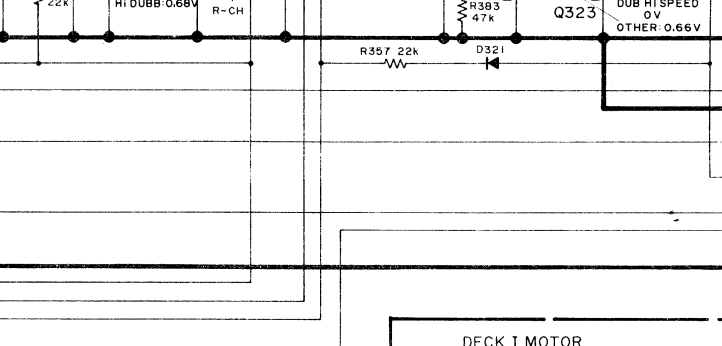
U302 (HD14066B)



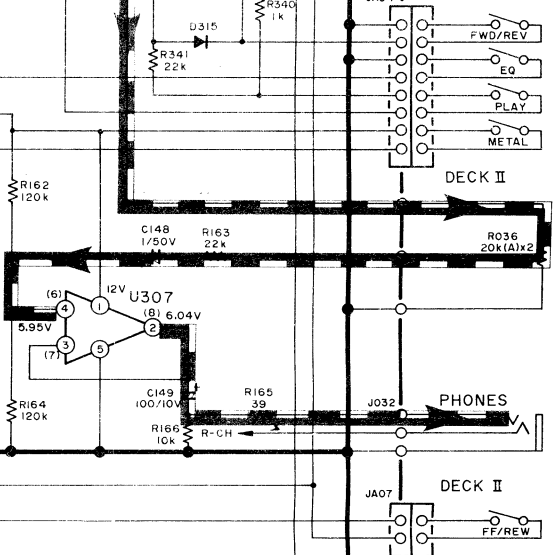

U303 (CX20187)




U401, U501 (BA6124)




U306, U307 (NJM4558S

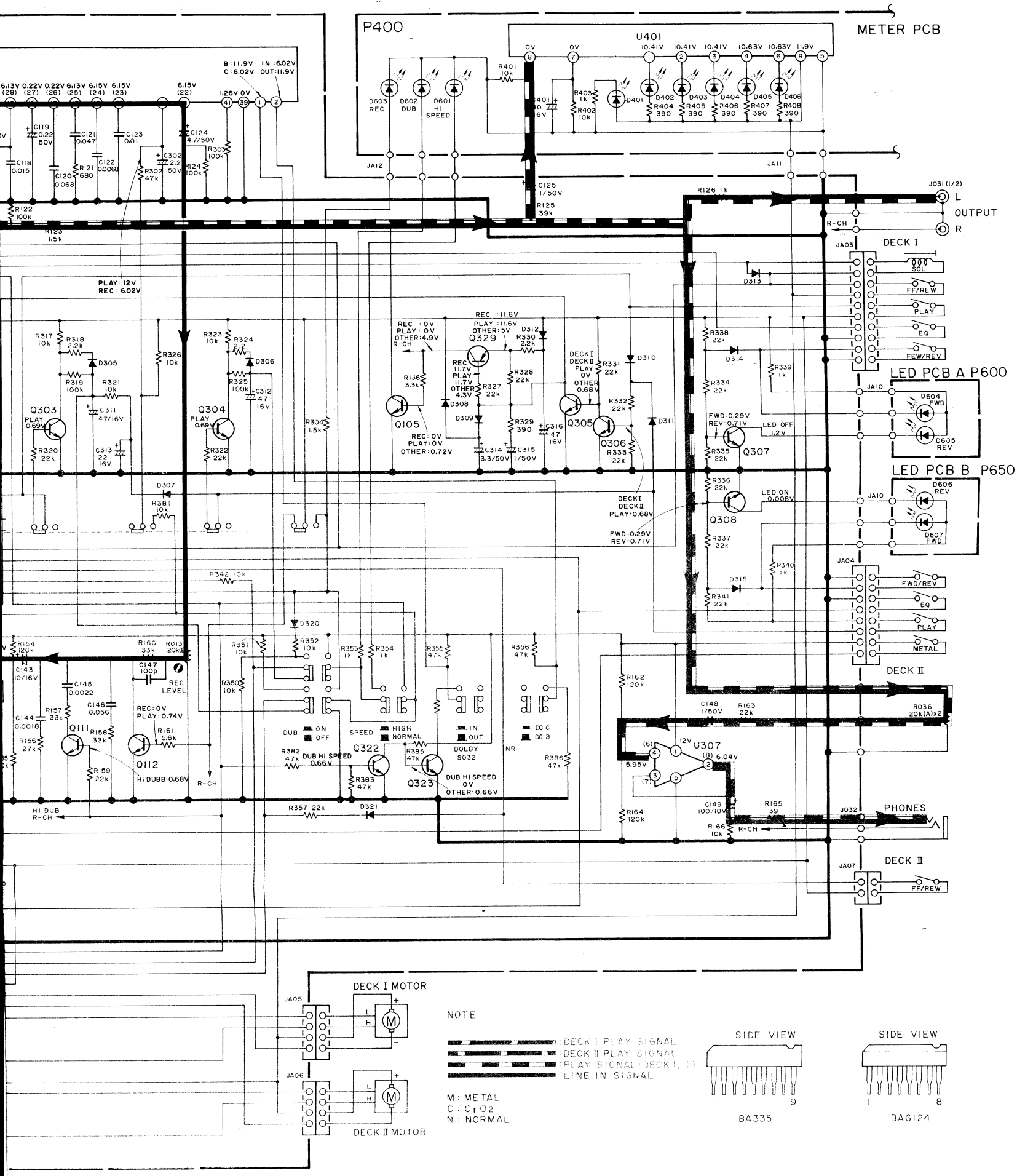



NOTE:
The circuit diagrams show only the Left channel, a
channel is omitted.
The symbol numbers of the Right channel are set base
the Left channel with the relationship as shown below.
(The following examples show the symbol names of resi

| L CH | R CH |
|---|---|
| R010- | R020- |
| R101- | R201- |
| R401- | R501- |

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original partrs should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

**Components and wiring are subject to change for modificat**

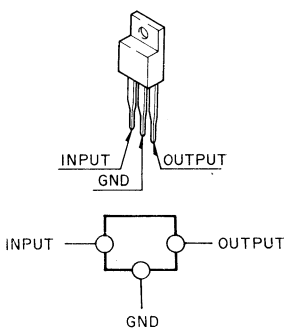



NOTE

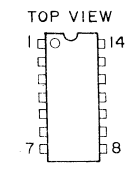
: DECK I PLAY SIGNAL
: DECK II PLAY SIGNAL
: PLAY SIGNAL (DECK I, II)
: LINE IN SIGNAL

M : METAL
C : CrO2
N : NORMAL

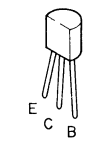
| | |
|---|---|
| U301,U304 | D301~D311<br>D314~D316<br>D319~D321 |
| µPC1228H | |
| | IS1555 etc. |
| U302 | |
| HD14066B | D317,D318 |
| | IN4003 |
| U303 | |
| CX20187 | D322 |
| | PB153M |
| U305 | |
| BA335 | D401~D404<br>D501~D504<br>D604~D607 |
| U306,U307 | LTL-307GE-031A |
| NJM4558S | |
| | D405,D406<br>D505,D506 |
| U309,U310 | |
| µPC7812H | LTL-307EE-031A |
| U401,U501 | D601~D603 |
| BA6124 | LTL-4232-031A |
| Q101~Q113<br>Q201~Q213<br>Q301~Q323 | |
| 2SC1815(GR) | |
| Q324~Q326 | |
| 2SC2655(Y) | |
| Q327~Q329 | |
| 2SC2235(Y) | |

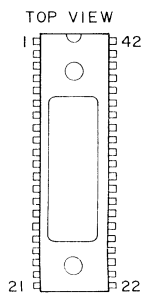



µPC7812H

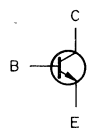



HD14066B

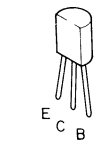



CX20187




2SC1815(GR)



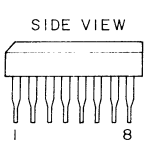

2SC2655(Y)
2SC2235(Y)




BA335

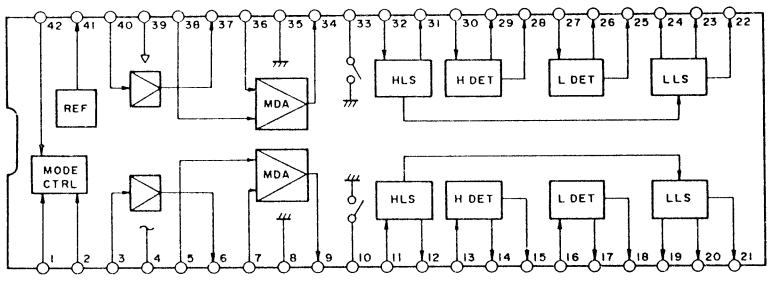



BA6124

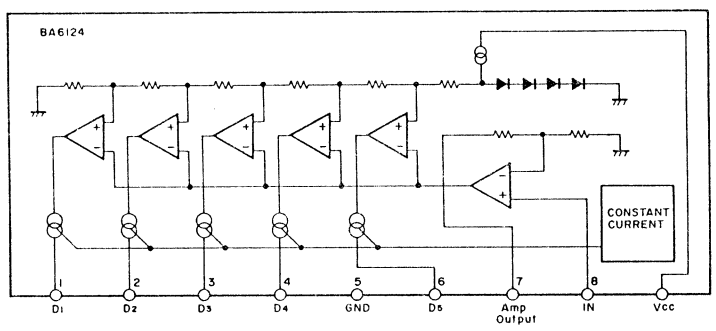



µPC1228H
NJM4558S

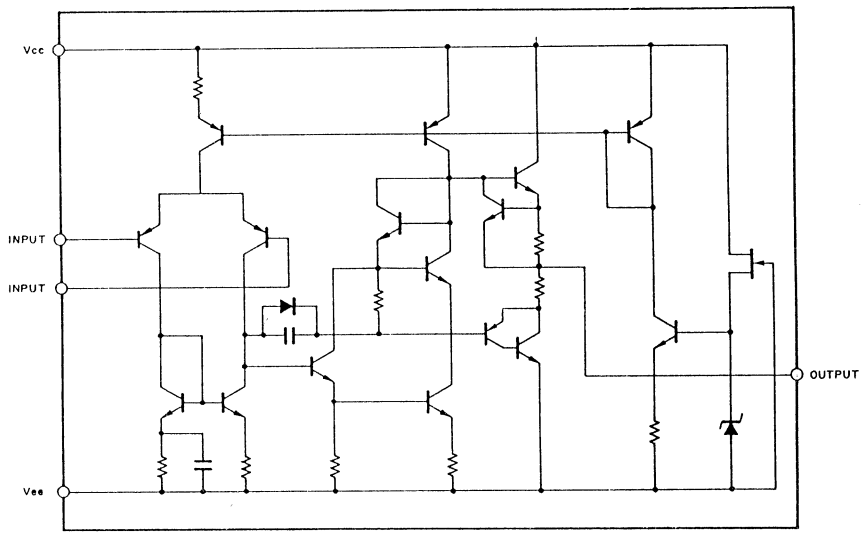
## U303 (CX20187)




## U401, U501 (BA6124)




## U306, U307 (NJM4558S)




**NOTE:**
**The circuit diagrams show only the Left channel, and the Right channel is omitted.**
**The symbol numbers of the Right channel are set based on those of the Left channel with the relationship as shown below.**
**(The following examples show the symbol names of resistors.)**

| L CH | R CH |
|---|---|
| R010- . . . . . | R020- |
| R101- . . . . . | R201- |
| R401- . . . . . | R501- |

**NOTE ON SAFETY:**
**Symbol ⚠ Fire or electrical shock hazard. Only original partrs should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.**

**Components and wiring are subject to change for modification without notice.**

marantz®

Noise Reduction System manufactured under license from Dolby Laboratories.
"DOLBY", the Double-D symbol and the word "Dolbyized" are trademarks of Dolby Laboratories.
**MARANTZ** is a registered trademark